SEGA.M®

ELECTRICAL PRODUCTS

CABLE TRAY
CATALOGUE



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ABOUT SEGA. M

- Sega-m is an advanced engineering company for electrical products and low voltage switchboards established by experiences of its founders that exceeds 40 years in industry field
- Our factories are found in the industrial area of the 10th of Ramadan City Egypt It's located on an area 30.000m
- Sega-m factories are equipped with the latest production lines, from the large manufactures in Europe
- Fully equipped factory with the latest machines for making moulds with an Engineering team working in development of the products, and giving new creative solution

Our Mission

- Is to provide the market with High quality Products, that serve the electrical installations sector, with all its installations requirements, that fulfill all our customers' needs

Our Vision

- Serving the society and our beloved country through raising the standards of business and customer satisfaction.Saving the planet and cutting carbon emissions by providing energy efficient solutions in both production and distribution of electric power

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- Sega-m factories are equipped with the latest production lines, from largest manufactures in Europe, specially built for this industry Computerized Punching, bending, cutting machine

- Welding robots.
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LASER CUTTING MACHINE

SEGA-M Labs



IP- FLUIDS



IP - DUST CHAMBER



SALT SPRAY

NEMA Standards Publication VE 1-2002

Canadian Standards Association Publication CSA C22.2 No. 126.1-02 Metal Cable Tray Systems

Section 1
SCOPE

This Standard specifies the requirements for metal cable trays and associated fittings designed for use in accordance with the rules of the Canadian Electrical Code (CEC), Part /, and the National Electrical Code (NEC).

Section 2
DEFINITIONS AND ABBREVIATIONS

2.1 DEFINITIONS

The following definitions apply in this Standard (see also Figure 1):

Accessory: Components used to supplement the function of a straight section or fitting. Examples include, but are not limited to, dropout, cover, conduit adapter, hold-down device, and divider.

Cable tray support span: The distance between the centerlines of supports.

Cable tray system: A section or assembly of sections, and associated fittings, forming a mechanical system used to support cables and raceways.

Channel cable tray: A fabricated structure consisting of a one-piece ventilated-bottom or solid-bottom channel section.

Connector: A component that joins any combination of cable tray straight sections and fittings. The basic types of connectors include rigid, expansion, adjustable, and reducer.

Fasteners: Screws, nuts, bolts, washers, rivets, spacers, pins, and other items used to connect and assemble cable tray systems.

Fitting: A component that is used to change the size or direction of a cable tray system.

Horizontal cross: A fitting that joins cable trays in four directions at 90° intervals in the same plane.

Horizontal elbow: A fitting those changes the direction of cable tray in the same plane.

Horizontal tee: A fitting that joins cable trays in three directions at 90° intervals in the same plane.

Horizontal wye: A fitting that joins cable trays in three directions at other than 90° intervals in the same plane.

Ladder cable tray: A fabricated structure consisting of two longitudinal side rails connected by individual transverse members (rungs).

Reducer: A fitting that joins cable trays of different widths in the same plane.

Left-hand reducer: A reducer having, when viewed from the large end, a straight side on the left.

Right-hand reducer: A reducer having, when viewed from the large end, a straight side on the right.

Straight reducer: A reducer having two symmetrical offset sides.

Single-rail cable tray: A fabricated structure consisting of a longitudinal rail with transversely connected members (rungs) that project from one side (side-supported) or both sides (center-supported), which may be single- or multi-tier.

Solid-bottom or noventilated cable tray: A fabricated structure consisting of a bottom without ventilation openings within integral or separate longitudinal side rails.

Straight section: A length of cable tray that has no change in direction or size.

Support: A component that provides a means for supporting a cable tray, including, but not limited to, cantilever bracket, trapeze, and individual rod suspension.

troughor ventilated cable tray: A fabricated structure consisting of integral or separate longitudinal rails and a bottom having openings sufficient for the passage of air and utilizing 75% or less of the plan area of the surface to support cables where the maximum open spacing between cable support surfaces of transverse elements do not exceed 100 mm (4 in.) in the direction parallel to the tray side rails.

NOTES

(1) On horizontal bends only, the maximum distance between transverse elements is measured at the centerline of the bend.

(2) A ladder cable tray having rung spacing such that the cable tray meets the definition described above is considered to be a ventilated cable tray.

Vertical elbow: A fitting those changes the direction of cable tray to a different plane.

Insidevertical elbow: A fitting that changes the direction of cable tray upward from the horizontal plane.

Outside vertical elbow: A fitting that changes the direction of cable tray downward from the horizontal plane.

Vertical tee: A fitting that joins cable trays in three directions at 90° intervals in different planes.

Wire mesh cable tray: A manufactured wire mesh tray consisting of steel wires welded at all intersections. Longitudinal wires located on the exterior of the tray are spaced at a maximum of 50 mm (2 in.) and transverse wires are spaced at a maximum of 100 mm (4 in.).

Wiremesh cable tray fitting: A fitting for wire mesh cable tray systems, fabricated from wire mesh cable tray straight sections. The fitting is field-constructed and attached to the adjacent sections using splice connectors in accordance with the manufacturer's instructions.

2.2 ABBREVIATIONS

The following abbreviations apply in this standard:

A — ampere
ac — alternating current
°C — degrees Celsius
dc — direct current
°F — degrees Fahrenheit
ft—foot
in. — inch
kg — kilogram
lb — pound
lin ft — linear foot
lin m — linear meter
m — meter
min — minute
mm — millimeter
Ω — ohm
51 — International System of Units (metric)

section 3

GENERAL

3.1 REFERENCE PUBLICATIONS

Where reference Is made to other publications, such reference shall be considered to refer to the latest edition and au amendments published to that edition up to the time when this Standard was approved.

Canadian Standards Association (CSA)

5060 Spectrum Way, Suite I 00 Mississauga, ON. Canada L4W 5N6

C22. I -02 Canadian Electrical Code, Part I

CAN/CSA-GI 64-M92 (RI998) Hot Dip Galvanizing of ,regularly Shaped Articles

National Electrical Manufacturers Association (NEMA)

1300 North 17th Street Rosslyn, Virginia Z22f'J9

VE 2-2000 Cable Troy Installation Guidelines

American National Standards Institute (ANSI)

11 West 42nd Street New Yoo, NY 10036

ANSI/NFPA 70-2002 National Electrical Code

American Society for Testing and Materials (ASTM)

1916 Race Street Philadelphia PA 19103

A 123/A 123M-01 a Standard Specification for Zinc (Hot-Dip GalvoniZed) Coatings on Iron and Sleet Products

A 653/ A 653M-02 Standard Specification for Steel Sheet. Zinc-Coated (Golvanlzed) or Zinc-Iron Alloy-Coated {Galvanneoled) by the Hot-Dip Process

B 633-98el Standard Specification for Eteclrodeposlted Coatings of Zinc on Iron and Steel

3.2 UNITS OF MEASUREMENT

The values given in SI (metric) units ore mandatory. Any other values given are for information only.

NOTE - Lengths are shown in millimeters or meters (inches or feel). Widths, deflections. and similar measurements are generally defined in millimeters (fractions of inches), and load-bearing capacity in kilograms/meter (pounds/foot).

Section 4

CONSTRUCTION

4.1 MATERIALS

Coble troy systems shall be mode of either corrosion-resistant metal, such as aluminum a< stainless steel, or metal with a corrosion-resistant nnish.

4.2 FINISHES

4.2.1 Carbon steel used for cable trays shall be protected against corrosion by one of the following processes:

(a) Type I --- Hot-dip galvanizing af1er fobrico1ion In accordance with CAN/CSA-G164 or ASTM A 123/A 123M;

NOTE - fabricated producfs that ore hot-dip galvanized ore thoroughly cleaned. fluxed, and immersed in a both of molten Zinc, where they react to form o metallurgic oily bonded zinc cooling. Normal oxldotlon of the galvanized surfaces will. in o short period or time, appear os a dull gray or white coo ting. Some degree of roughness and variations of thicknesses can be expected as a result of the hot-dipping process. Because the galvanizing process takes place at the low end or the stress-relieving temperature range, some stress relief occurs. and some distortion or warping may result.

(b) Type 2- Hot-dip mill gotvanlzlng In accordance with ASTM A 653/ A 653M, coating designation G90;

NOTE - Hot-dip mill galvanized coatings are produced by continuously rolling steel sheets or strips in coils through a bath of molten zinc. The process Involves prelreoting the steel lo make the surface react readily with mollen zinc as the strip moves through the bath al high speeds. During fobricaflon, where slitting forming, cutting, or welding Is performed. the cut edges and heot-affected zone of welding are subject to superficial oxidation. These areas are then protected through electrolytic action of the adjacent zinc surfaces. The coating is smooth, ductile, and adherent.

NOTE-For corrosive or wet locations, other coolings may be more suitable.

(c)Type 3- Electrodeposiled Zinc in occa<dance with ASTM B 633 (SC 2 minimum); or

NOTE-Fabricated products that ore lo receive electrodeposited zinc tzinc plated) coolings ore thoroughly cleaned and then a thin layer of Zinc is deposited by electrolysis. A conversion coating can then be applied to the Zinc surface, resulting in a colored (typically yellow) or colorless (clear-blue)appeoronce. E!ecfrodeposiled zinc is o common indoor finish for wire mesh cable troys. for corrosive or wet locations, other coo tings or materials may be more suitable.

(d) Other coolings os oppropriole for the application. Where a nationally recogniZed standard exists. the coating shall be applied In accordance with that standard.

4.2.2 For installations in highly corrosive environments, such as alkaline or acidic conditions, different or additional protective coatings may be provided, as agreed to between the end user and the manufacturer.

4.2.3 Carbon steel nuts and bolts shall be protected against corrosion by one of the following processes:

(a) Zinc electroplating in accordance with ASTM B 633; or

(b) Other coatings as appropriate for lhe opplicaflon. Where o nolionolly recognized standard exists. the cooling shall be applied in occordonce wilh that standard.

4.3 TYPICAL DIMENSIONS

4.3.1 General

Clauses 4.3.2 lo 4.3.7 provide the typical dimensions used in the industry. other dimensions shall also be acceptable. Dimensions are based on rotionolized conversions.

4.3.2 Lengths of Straight Sections

Typicol lenglhs. not including connectors ore:

(a) 3 m ± 5 mm 110 f1 ± 3/16 in.J;

(b) 3.66 m±5 mm (12 ft ±3/16 in.);

(c) 6 m ± 9 mm (20 ft± 5/16 in.); and

(d) 7.32 m ± 9 mm (24 f1 ± 5/16 In.).

4.3.3 Widths

4.3.3.1 For sections other than channel coble trays or wire mesh coble troys. typical widths are:

(a) 150mm (61n.)·

(b) 225 mm 19 in.):

(cl 300 rnm (12 In.);

(di 450 mm II81n.);

(e) 600 mm (24 In.).

(fl 750 mm {30 in.); and

(gl 900 mm 136 in.).

NOTE - The lotemnce of the widths Is within+ 6 mm (I /4 In.) for inside dimensions.

Overall width shall not exceed lhe inside width by more than 100 mm (4 in.).

4.3.3.2 For channel cable trays, typical widths are:
(a) 75 mm (3 in.):
(b) 100mm(4 in.); and
(c) 150mm (6 in.).
NOTE- The tolerance of the widths Is within + 6 mm (1 /4 In.) for Inside dimensions.
4.3.3.3 For wire mesh cable troys, typical widths are:
(a) 50 mm (2 in.);
(b) 100 mm (4 in.);
(c) 150mm (6 in.);
(d) 200 mm (8 in.):
(e) 300 mm (12 in.);
(f) 400mm (16 in.);
(g) 450mm (18 in.):
(h) 500 mm (20 in.); and
(l) 600 mm (24 in.).
NOTE- The tolerance of the widths Is within ± 3 mm (1/8In.) for inside dimension.

4.3.4 Depths

4.3.4.1 For other than channel cable trays or wire mesh cable troys, typical depths for sections ore:
(o) 75 mm (3 in.);
(bl 100 mm (4 in.):
(c) 125 mm (5 in.): and
(d) 150 mm (6 in.).
NOTE - The tolerance of the depths Is within + l O mm (3/8 in.).

4.3.4.2 For channel cable trays. typical depths ore 30-50 mm (1-1 /4·2 In.) outside dimensions.

4.3.4.3 For wire mesh coble trays. typical depths are:
(a) 25 mm (l in.);
(b) 50 mm (2 in.):
(c) 75mm (31n.J;
(d) 100 mm (4 In.); and
(e) 150 mm (6 In.).
NOTE - The tolerance of1he depths Is within ±10 mm (3/8 in.). The measurement is thelill depth.

4.3.4.3 For single-rail coble trays. typical depths are:
(a) 75 mm (3 in.):
(b) 100 mm (4 in.);
(c) 125 mm (5i n.):and
(d) 150 mm (6 in.).
NOTE- The tolerance of the depths Is within ±10 mm (3/8 in.). The measurement is the fill depth.
Outside depths shall not exceed inside depths by mare than 30 mm (1-1/4 in.).

4.3.5 Nominal Rung Spacings on Straight Sections

Typical rung spacings ore:
(a) 150 mm (6 in.);
(b) 225 mm (9 in.); and
(c) 300 mm (12 in.).

4.3.6 Inside Radii

Typical inside radii or curved sections are:
(a) 300 mm (12 in.):
(b) 600 mm (24 in.); and
(c) 900 mm (36 in.),

4.3.7 Degrees of Arc for Elbows

iypical degrees of arc for elbow sections ore:
(a) 30°:
(b) 45°;
(c)60°.and
(d)90°.

4.4 QUALITY OF WORK

Cable fray systems shall be free from burrs or other sharp projections that could cause damage to the coble jacket during installation.

4.5 FITTINGS

Attlngs shall not be required to be subjected to the load tesf described In Clouse 5.2.
NOTE - Since fittings ore not load-tested. !hey will not meet the strength requirements of straight sections unless supported os shown In NEMA YE 2. or In accordance with the manufacturer's Instructions.

4.6 FASTENERS

Fasteners used far connection and assembly of a coble troy system shall be supplied according to the manufacturer's instructions and shall comply with the requirements of Clause
4.2.3.

4.7 BONDING

4.7.1 Cable tray systems shall be provided with connection means meeting the requirements of Clause 5.1.

4.7.2 Where paint or additional coatings are applied to components of the cable tray system, means shall be provided to ensure a measured resistance in accordance with Clause 5.1.

4.8 LOAD CAPACITY

4.8.1 Straight sections of cable tray shall meet the requirements of the test specified in Clause 5.2. See also Clause 5.3.

NOTES
(l) The load ratings in Table 1 ore these most commonly used.
(2) See Clause 5.3 for Interpolation or test data when determining lhe load rating of spans shorter than the tested span.

4.8.2 A concentrated static load is not included in Tobie 1.Some user applications may require that a given concentrated static load be imposed over and above the working load. Depending on concentrated load value and locoHon of load, some coble troy systems may not be suitable for support.When considering a concentrated load applied other than described below, consult the manufacturer.

A concentratd static lood represents o static weight oppled on the centerline of the tray at midspan. When so specified, the concentrated static load may be converted to an equivalent uniform load (We) in kg/lin m (lb/lin ff), using the following formula, and added to the static weight of cables in the tray:

$$We = \frac{2 \times (\text{concentrated static load, kg (lb)})}{\text{Span length, m (ft)}}$$

4.8.3 Channel coble troy straight sections not exceeding 150 mm (6 in.) in width and 50 mm (2 In.) In depth need not be load-tested In accordance with Clouse 5.2.

Section 5

TESTS

5.1 ELECTRICAL CONTINUITY OF CONNECTIONS

5.1.1 Each specimen shall consist of two 600 mm (24 in.) minimum lengths of standard spliced or coupled sections.

5.1.2 A current of 30 A dC shatl be passed through the specimen and the resistance measured between two points locoted 1.6 mm (1/16 in.) from each side of the splice or coupling. The net resistance of the connection shall be not more than 0.00033 Q as computed from the measured voltage drop and current pdssing through the specimen, at an ambient temperature of 15-35°C (60-95°F).The current source shotl be applled ot least 300 mm (12 in.) on either side of the splice or coupling.

5.2 LOAD TESTING

5.2.1 General

Cable troy specimens shall be subjected to either loading to destruction (Method A). as specified in Clause 5.2.8. or loading to residual deflecllon (Method B). os specified In Clouse 5.2.9.

5.2.2 Test Specimen

For each design of cable tray. two specimens shall be tested. An unspliced straight section of the greatest width shall be used in each test.

For troys with rungs. rung spacings shall be the lorgest in a porticular class.

Differences in gauge. Wire diameter, height of rail(s), rung design, rung spacing greater than the tested spacings, bottom to raail connection, or in the configuration of any part shall constitute a different design.

Coated trays need not be tested, provided that bare or pregalvanized trays of the some doss have been tested.

5.2.3 Type and length of Span

The test specimen shall be a simple beam span, with free unrestrained ends. Trays shall not have side restrolnts.

Span lengths shall be as specified, with a tolerance of +38 mm (1-1/2 in.).

Side-mounted single-rail cable trays shall have restrained ends.

5.2.4 Orientation of Specimen

Specimens sholl be tested In the horizontal position. the total length of the test specimen shall be not more than the specified span length+ 20%. Any overhang shall be equally distributed beyond both supports.

5.2.5 Supports

Each end of the specimen shall be supported by a steel bor(s) of 30 mm (1-1/8 in.) width and 19 mm (3/4 in.) height, with a 120° V-notch cut in its bottom to a depth of 5 mm (3/16 in.). the V-notch shall rest on a 25 mm (1 in) solid round steel bar fastened to a rigid base. or the specimen shall be supported directly on a 65 mm (2-1/2 in.) diameter round steel bar or heavy wall steel tube fastened to a rigid base.

At the supports, single-rail trays may have side restraints that do not constrain vertical movement.

Side-mounted single-roil coble tray specimens shall be supported to the woll os recommended by the monufacturer at both ends and at mid-point.

5.2.6 loading Material

Loading material shall be steel strips, leadingots, or other loading matertals meeting the following requirements:

(a) Individual steel strips shall have rounded or deburred edges, a maximum thickness of 3 mm (1 /8 in.), a maximum width of 100 mm (4 in.). and a maximum length of 7.32 m (24 ft).

When load testing wire mesh cable tray with strips havlng a thickness of 3 mm (1/8 In.) and a maximum width of 100 mm (4 in.). the length of the strips shall not exceed 50% of the length of the test span. When full span strips are used, the maximum thickness shall be 1.6 mm (l /16 in.), and the maximum width shall be 100 mm (4 in.).

(b) Five lead ingots. each weighing approximately 2.3 kg (5 lb), shall be interconnected ocross corners into a string of five ingots approXimately 550 mm (22 in.) long. Individual ingots shall be hexagonal. approximately 75 mm (3 in.) in diameter, and 38 mm (1-1/2 in.) deep.

(c) Other loading materials shall have a maximum weight of 4.5 kg (10 lb), a maximum width of 125 mm (5 in.), and a maximum length of 300 mm (12 In.).

5.2.7 Load Application

5.2.7.1 The load shall be opplied in at teost 10 increments that are approximately equal in weight.

5.2.7.2 Loading shall be unfformly distributed for the length and breodlh of the specimen, except that the loading material sholl not be closer than 13 mm (1/2 in.) nor further than 25 mm (1 In.) from the Innermost elements of the sides. Il shall be orronged ocross the tray with a minimum of 10 mm (3/8 in.) between stacks so that the loading material does not bridge transversely. All loading malefials shall be placed between supports without overhanging. in multi-tier cable trays, the loading shall be uniformly distributed among the tiers.

5.2.7.3 For loading weight in troys with rungs. the bottom of the tray between supports may be covered with flat sheet of No. 9 gauge. flattened expanded malerial not more than 900 mm (3 ft) long and With o wire hole size of 19 mm (3/4 In.). ore flat sheet of No. 16 gouge sheet steel not more than 900 mm (3 ft) long. The expanded metol or sheet steel (dunnoge) shall not be fastened to the tray ond shall be no closer than 13 mm (l/2 in.) to the side rails. The lengths shall not overtop by mare than 50 mm (2 in.). The weight of expanded metal or sheet steel shall be added to the total weight of the loading material.

5.2.8 Loading to Destruction (Method A)

The total weight of the loading material on the coble tray. plus dunnoge if used, prior to addition of the Incremental weight that causes the destruction, shall be considered to be the destruction load. The rated load capacity of the cable tray shall be the destruction load divided by a safety factor of 1.5. For multi-tier troys, failure of any of the tiers shall be considered as failure of the whole cable tray.

5.2.9 Loading to Residual Deflection (Method Bl

5.2.9. l Minimum Test Lood

The minimum test load to be applied shall be determined In accordance with the following formula:

Total minimum test load = 1.5 x L x w

Where:

t .5 = safety factor

L = span length, m (ft)

w = roted load, kg/m (lb/ft)

5.2.9.2 Load Application

Each specimen shall first be loaded to 10% of the minimum test load. The vertical defleclion of the tray shall be measured at three points along the line midway between the supports and at right angles to the longitudinal axis of the tray. The three points of measurement shall be under each side rail and at the center of the troy. In troys where there ore no side roils. the three points of measurement shall be under the outer edges and under the center. This measurement shall be known as the initial deflection. The loading shall then be continued until all of the rated load is applied. The deflection shall be measured in the same manner as theinitial denection. The loading shall then be continued until the total minimum test load has been applied. The total load shall then be removed from the tray. After 15 min the vertical deflection shall be measured In the some manner as previously used. This measurement shall be known as lhe residual deflection. The specimen may then be reloaded until it collapses, and the values of the load at collapse shall be recorded. This information concerning the load at collapse point Is optional, but some users may require ilt to obtain product acceptance.

5.2.9.3 Measurement of Residual Deflection

The residual deflection at each point of measurement of the two specimens shall be averaged. Where a residual deflection for either specimen Is equal to or exceeds 80% of the Initial deflection and, in addition, deviates from !he overage by more than 10%. two more specimens shall be tested. The overage of the three highest values at the point of measurement of the four specimens shalt be regarded as the final result. In multi-lier trays, the maximum deflection In any of the tiers shall be considered the maximum deflection, of the whole tray.

5.3 INTERPOLATION OF TEST DATA

When allowable load and deflecllon data ore determined by the load test, destruction load capacity for span lengths less than the tested span shall be interpolated with the formula shown below. When interpolating in this manner, ensure that the rung strength is also sufficient to support the load.

W2 = W1 X L12 lL22

Where:

W2 = calculated load, kg/m lib/ft)

Wl = tested food, kg/m (lb/ft)

L1 = tested span length. m [fll

L2 = new span length. m (fl)

5.4 RUNG LOAD CAPACITY (OPTIONAL)

5.4.1 General

If rung load capacity is to be specified by the manufacturer. the capacity shall be determined In accordance with Clauses 5.4.2 to 5.4.8.

5.4.2 Test Equipment

All load-bearing surfaces shall be not. with edges rounded lo a maximum radius of 3.2 mm {1/8 in.). An example of the oppUcotion of the load Is shown In Figure 2.

5.4.3 Test Specimen

For each rung design. two separate tests of the greatest rung length shall be mode.

5.4.4 Span Length and Supports

Test spans shall be simple beam spans with free, unrestrained ends. Rungs shall not hove side restraints. Each end of lhe specimen shall be supported by o flol steel bar at a span teng1h as specified ±38 mm (11 /2 in.).

5.4.5 Orientation of Specimens

Specimens shall be tested in the horizontal position. The total length of the tes1 specimen shall be the specified span length+ 150 mm (6 In.) maximum. Any overhang shall be equally distributed beyond both supports.

5.4.6 Loading

All specimens shalt be loaded to destruction. The loading shall be a concentrated food. applied to the 25 mm (1 in.) central length of the span.

5.4.7 Load Capacity

The maximum load applied to the rung shalt be considered 1he destruction lood capacity of the rung. The roted load capacity shall be the destruction food divided by o safety factor of 1.5.

NOTE - The roted load may be expressed as a uniform food by multiplying the concentrated load by a factor of two.

5.4.8 Interpolatlon of Rung Load Test Data

When the roted load doto ore determined by Clouse 5.4.7, the roted load capacity for span lengths less than the tested span shall be Interpolated with the following formula:

W2 = WT x L12 IL22

Where:

W2 = calculated load, kg/m (lb/ft)

Wl = tested food, kg/m llb/fl)

Ll= tested span length, m (fl)

L2 = new spon length. m (ft)

Section 6

MARKINGS AND PRODUCT INFORMATION

NOTE - In Canada, there are two official languages, Engfish and French. Annex A lists French translotions of the markings specified in this Standard.

6.1 MARKING ON PRODUCT

6.1.1 Dimensions and measurements marked on the product shall include SI units. Markings expressed in Inch-pound units shall be optional.

Material

Aluminum

Aluminum cable trays are fabricated from structural grade (marine grade) aluminum extrusions. Aluminum's excellent corrosion resistance is due to its ability lo form an aluminum oxide film that when scratched

or cut reforms the original protective film. Aluminum has excellent resistance to "weathering" in most outdoor applications. Aluminum cable tray has excellent corrosion resistance in many chemical environments. aluminum cable trays can perform Indefinitely, with fittle or no degradation over lime. making ii Ideal for many chemical and marine environments. The resistance to chemicals. indoor and outdoor, can best be determined by tests conducted by the user with exposure to the specific conditions for which it is intended. For further information, contact SEGA.M.

Steel

Steel cable trays are fabricated from continuous roll-formed structural quality steel. By roll-forming steel. the mechanical properties are increased allowing the use of a lighter gauge steel to carry the required load. This reduces the dead weight that must be carried by the supports and the installers. Using Structural quality steel. sega.m assures that the material will meet the minimum yield and tensile strengths of appficable ASTM standards. All coble tray side rails, rungs and splice plates are numbered for material traceability. The corrosion resistance of steel varies widely with coating and alloy.

Stoinless Steel cable trays are fabricated from continuous roll-formed AISI Type 304 or AISI Type 316/316L stainless steel. Both ore non-magnetic and belong to the group called oustenl!ic stainless steels. Uke carbon steel, they exhibit increased strength when cold worked by roll-forming or bending. Several important conditions could make the use of stainless steel imperative. These include long term maintenance costs.

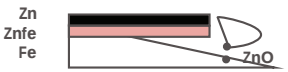
corrosion resistance, appearance and locations where product contamination is undesirable. Stainless steel exhibits stable structural properties such as
to ensure each weldment exhibits the same corrosion resistant characteristic as the base metal. Localized staining In the weld area or heat affected zone may occur in severe environments. Speciofized shielding gases and low carbon materials ore used to minimize carbon contamination during welding and reduce staining and stress corrosion. Specify passivation ofter fabrication per ASTM A380 to minimize staining. Improve aesthetics and further improve corrosion resistance.

FINISH

Zinc Coatings

Zinc protects steel in two ways. First it protects the steel as a coating and second as a socr!flciol anode to repair bore areas such as cul edges. scratches. and gouges. The corrosion protection of zinc Is directly related to its thickness and the environment. This means a .2 mil coating will lost twice as long as a . 2 Mli coating in the same environment.

Golvaizing also protects and ored dried edges.



Electro galvanized Zinc. (ASTM 8633)

Electro galvanized Zinc (also known as zinc plated or electroplated) is the process by which a coating of zinc is deposited on the steel by electrolysis from a bath of zinc salts. This finish is standard for cable tray hardware and some accessones for aluminum and pre-galvanized systems. Provides a minimum zinc coating thickness of .5 mils when exposed to air and moisture. zinc forms a tough, adherent. protective Film consisting of a mixture of zinc oxides. hydroxides, and carbonates. This film is in Itself a barrier coating which slows subsequent corrosive
Attack on the zinc. This cooling Is usually recommended for indoor use In relatively dry areas, as it provides ninety-six hours protection in salt spray testing per
ASTM B117.

Pre-Galvanized Zinc. (ASTM A653)

(Mlii galvanized, hot dip mill galvanized or continuous hot dip galvanized) Pre-Golvonized steel is produced by coating colts of sheet steel with zinc by continuously roling the material through molten zinc at the mills. This is also known os mill galvanized or hot dip mill galvanized. These coils are then slit to Size and fabricated by roll forming, shearing. punching. or forming to produce SEGA.M pre-galvanized coble troy products. The G90 specification calls for a coating of .90 ounces of zinc per square foal of steel. This results in a coating of . 45 ounces per square foat on each side of the sheet. This is Important when comparing this finish to hot dip galvanized ofter fabrication. During fabrication, cut edges and welded areas are not normally zmc coated: however. the zinc near fhe uncooled metal becomes a sacrificial anode to protect the bare areas after a short period of time.

Hot Dip Galvanized After Fabrication (ASTM A123)

(Hof dip galvanized or botch hot dip galvanized) Hot Dip Galvanized affer Fabrication coble tray products ore fabricated from steel and then completely immersed in a both of molten zinc. A metallic bond occurs resulting in a zinc coating lhat completely cools oil surfaces. including edges and welds. Another advantage of this method is coating thickness, Cable trays hot dip galvanized after fabrication have a minimum thickness of 1.50 ounces per square foot on each side, or a total 3.0 ounces per square fool of steel, according to ASTM A 123. The zinc thickness is controlled by the amount of time each port is Immersed In the molten zinc both as well as the speed at which ii is removed. The term "double dipping" refers to ports loo large to fit Into the galvanizing kettle and.therefore. must be dipped one end at a Time. It does not refer to extra coating thickness. The layer of zinc which bonds to steel provides a dual protection against corrosion. It protects first as an overall barrier coating. If this cooling happens to be scratched or gouged. zinc's
Secondary defense is called upon to protect the steel by galvanic action.
Hot dip galvanized ofter fabrication is recommended for prolonged outdoor exposure and will protect steel for many years In most outdoor environments and in many aggressive industrial environments

Painting Cable Tray

SEGA.M offers polnted coble troy to any color specified by the customer. It is important to note
That there ore key advantages and disadvantages to ordering factory pointed coble tray. Pointed cable tray is often used In "open celling" applications, where all the overhead equipment and structure is painted the some color. In this type of application. additional pointing is otten necessary in the field, otter instollation, to ensure oll of the supporting components. such as hanger rods. clamps and attaching hardware have been painted uniformly. Repainted cable tray interferes with common grounding practices. requiring the point to

be removed at splice locations, and/or the addition of bonding jumpers that were otherwise unnecessary. This additional field modiflcolion not only increases lhe installation cost. but causes potential damage lo the special pointed finish. We can paint cable tray in 2 cases ofter electroplating and after hot dip galvanizing process.

- Electro static painting.
- Ploy urethane painting.

Welding

The welding procedures used in the fabrication of all SEGA.M cable trays and accessories are in accordance with the latest American welding society standard. AWSDl,3. SEGA.M Steel, Stainless steel & Aluminum cable trays are welded by the MIG (metal insert Gos) welding process producing smooth, clean. slog-free weldments.

Corrosion

All metal surfaces ore affected by corrosion. Depending on the physical properties of the metal and the environment to which ii Is exposed, chemical or electromechanical corrosion may occur

Atmospheric Corrosion

Atmospheric corrosion occurs when metal is exposed to airborne liquids, so6ds or gases. Some sources of atmospheric corrosion
ore moisture. salt, dirt and sulphuric acid. This form of corrosion Is
Typically worse outdoors, especially near morfne environments.

Chemical Corrosion

Chemlcal corrosion toks place when metal comes in direct contact with a corrosive solution. Some factors which affect the seventy of chemical corrosion include: chemical concentration level. duration of contact. frequency of washing. and operating temperature.

Storage Corrosion

Wet storage stain (White rust) Is caused by the entrapment of moisture between surfaces of closely packed and poorty ventilated motenol for on extended penod. Wet storage stain is usually supertlcial, having no affect on the properties of the metal. Light staining normally disappears with weathering. Medlum to heavy buildup should be removed, in order to allow the formation of nonnal protective film. Proper handling and storage will help to assure stain-free material. If product arrives wet, it should be unpacked and dried before storage. Dry material should be stored in a well ventilated "low molslure" environment to ovoid condensation formation. Outdoor storage is undesirable, and should be avoided whenever possible

Atmospheric Corrosion

Atmospheric corrosion occurs when metal Is exposed to airborne liquids. solids or gases. Some sources of atmospheric corrosion are moisture, salt, dirt and sulphuric acid. This form of corrosion is typically worse ouldoors, especially near marine environments. Chemical Corrosion Chemical corrosion takes place when metal comes in direct contact with a corrosive solution. Some factors which affect the severity of chemical corrosion Include: chemical concentro1ion level. duration of contact. frequency of washing, and operating temperature. Storage Corrosion Wet storage stain (White rust) is caused by the entrapment of
Moisture between surfaces of
Closely pocked and poorly ventilated material for on extended period. Wet storage stain is usually superficial. having no affect on the properties of the metal. Light staining normally dlsoppears with weathering. Medium to heavy buildup should be removed, in order to allow the formation of normal protective film. Proper handling and storage will help to assure stain-free material. If product arrives wet, it should be unpacked and dried before storage. Dry material should be stored in a well ventilated "low moisture" environment to ovoid condensation formation. Outdoor storage is undesirable. and should be avoided whenever possible
Galvanic Corrosion Galvanic corrosion occurs when two or more dissimilar metals are in contacts in the presence of an electrolyte (I.e. moisture). An electrolytic cell Is created and the metals form an anode or a cathode depending on their relative position on lhe Gotvonlc Serles Tobie.
The anodic material will be the one to corrode. Whether a material is anodic depends on the relative position of the other material. For example:
If zinc ond steel are in contact, the zinc acts as the anode and will corrode; the steel acts as the cathode, and will be protected. If steel and copper ore In contact. the steel is now the anode and will corrode. The rate at which golVanic corrosion occurs depends on several factors.

1. The amount and concentration of electrolyte present- An indoor, dry environment will have little or no galvanic corrosion compared to a wet atmosphere.
2. The relative size of the materials- A small amount of anodic material in contact with a large catholic molerial will result in greater corrosion. Likewise. a large anode in contact with a small cathode will decrease the rate of oflock.
3. The relative posltion on the Galvanic Series Tabie - The further apart in the Galvanic Series Tobie, the greater the potential for corrosion of the anodic material

Installation Considerations

Weight

The weight of on aluminum coble troy is approximately half that of a comparable steel troy. Some factors to consider include: shipping costs, material, handling, project weight restrictions and the strength of support members.

Field Modifications

Aluminum cable tray Is easier to cut and drill than steel cable tray since it is a "softer" material. Similarly, galvanized steel cable tray is easier to cut and drill than stainless steel cable troy. SEGA.M aluminum cable tray uses a four bolt spfice, resulting in half as much drilling and hardware installation as most steel coble tray. which uses an eight bolt splice. Hot dip galvanized and pointed steel cable tray finishes must be repaired when field cutting or drilling. Failure to repair coatings will Impair the cable tray's corrosion resistance.

Availability

Aluminum, pre-galvanized, stainless steel and fiberglass cable tray can normally be shipped from the factory in a short period of time. Hot dip galvanized and painted cable tray requires an additional coating process, adding several days of preparation before final shipment. Typrcally.

A coated cable tray will be sent to an ouisIde source for coating, requiring additional packing and shipping.

Electrical Grounding Capacity

The National Electrical Code, Article 392.7 allows cable tray to be used as an equipment grounding conductor. All SEGA.M standard steel and aluminum cable trays are classified by Underwriter's Laboralories per NEC Table 392.7 based on their cross-seclional area. The corresponding cross-seclional area for each side rall design (2 side rails) is listed on a fade

Resistant UV stabilized label, this cable tray label is attached to each straight section and fitting that is U.L. classified. U.L. assigned cross-sectional area Is also stated in the loading charts in this catalog for each system

NEMA Installation Gulde

The new NEMA VE 2 is a cable tray Installation gulde□ne and Is available from NEMA

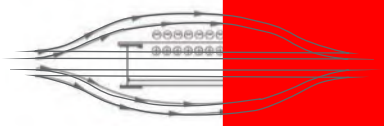
Environmental Loads Wind Loads

Wind loads need to be determined for all outdoor cable tray Inslallalions. Most outdoor cable frays are ladder type trays; therefore the most severe loading to be considered is impact pressure normal to the cable tray side rails.

V(MPH)	P(IBS/FT2	P(IBS/FT2	P(IBS/FT2
15	0.85	85	18.5
20	1.02	90	20.7
25	1.60	95	23.1
30	2.30	100	25.6
35	3.13	105	28.2
40	4.09	110	30.9
45	5.18	115	33.8
50	6.39	120	36.8
55	7.73	125	40.0
60	9.21	130	43.3
65	10.80	135	46.6
70	12.50	140	50.1
75	14.40	145	53.8
80	16.40	150	57.6

V= Wind Velocity
P= Impact Pressure





Example Calculation:

Side load for 6" side rail with 100 mph wind

25.6 x 6 = 12.8 lbs/ft

12

When covers are installed on outdoor cable trays, another factor to be considered is the aerodynomic effect which can produce a lift strong enough to SEGA.M recommends the use of heavy duty wraparound cover clamps when covered frays are installed in an area where strong winds occur.

Special Notice:

Coves on wide cable tray and/or cable tray installed at elevations high off !he ground may require additional heavy duty clamps or thicker cover material

Ice Loads

Glaze Ice is the most commonly seen form of Ice build-up. It is the result of rain or drizzle freezing on impact with on exposed object. Generally, only !he top surface (or the cover) and the windward side of a cable tray system is slgnificantly Coated with ice. The maximum Design load to be added due to Ice Should be calculated as follows:

$$Li = \frac{w \times Tl}{144} \times Dl \text{ where;}$$

LI= Ice load (lbs/linear foot)

W= Cable Tray Width (inches)

Tl= Maximum Ice Thickness (inches)

Dl= Ice Density = 57 lbs/tt3

The maximum lee thickness will vary depending on location. A thickness of l /2" can be used as a Conservative standard.

Example Calculation:

tee loads for 24" wide tray with 1 /2" thick ice:

$$\frac{24 \times .5 \times 57}{144} = 4.75 \text{ lbs/fl}$$

Environmental Loads Snow Loads

Snow is measured by density and thickness. The density of snow varies almost as much os its thickness. The additional design load from snowfall should be determined using Ihe building codes which apply for each installation.

Seismic Loads

A great deal of seismic testing and evaluation of cable tray systems, and their supports, has been Performed. The conclusions reached from these evaluations is That cable tray is stronger laterally than vertlcolly, since it acts as a Truss In the lateral direction. Other factors that contribute to the stability of cable tray are the energy dissipating motion of the cables within the Irey. and the high degree of ducllllty of the cable fray and the support material. These factors, working In conjunction with o properly designed cable tray system, should afford reasonable assurance to withstand even strong motion earthquakes. When seismic bracing is required for a cable tray system, it should be applied to the supports and not the cable troy Itself.

Concentrated Loads

A concentrated static load represents a static weight applied of a single point between the sides Roils. Tap boxes, conduit attachments and long cable drops are just some of the many types of concentrated loads. When so specified, these concentrated static Loads may be converted to on equivolent uniform load (We) by using the following formula:

$$We = \frac{2 \times (\text{concentrated static load})}{\text{span length}}$$

SEGA.M'S cable lrey side rails. rungs and bottoms will withstand a 200 lb. slatic load without collapse However, it should be noted that per NEMA Standard Publication VEl cable tray is designed as a support for power or control cables, or both, and is not intended or designed to be A walkway for personnel.

Support Span

The strength ot a cable tray is largely determined by the strength of its side rails. The strength of a coble tray side rail is proportionate to the distance between the supports on which lf is Installed, commonly referred lo os the "support span". Therefore, the strength of a cable tray system can be altered by changing the support span. However. there is a limit to how much the strength of a cable tray system can be increased by reducing the support span, because the strength of the cable tray bottom members could become the determining factor of strength.

Once the lood requirement of a cable tray system has been established, the following factors should be considered:

1. Sometimes the location of existing structural beams Will dictate the cable tray support span. This is typical with outdoor installations where adding intermediate supports could be financially Prohibitive. For this situation the appropriate cable tray must be selected to accommodate the existing span.
2. When cable tray supports are randomly located, the added cost of a higher strength cable tray System should be compared to the cost of odditton‌ol supports. Typically, adding supports ls more costly than Installlng a stronger series of cable tray.
3. The support span lengths should be eaual to or less than unplaced straight section lengths, to ensure that no more than one splice is placed between supports as stated in lhe NEMA VE 2 Coble Tray Installation Guideline.

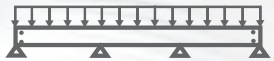
Deflection

Deflecflon In a coble troy system ls primarily on aesthetic consideration. When a coble tray system ls installed in o prominent loco lion.

A Maximum simple beam deflection of l /'2fX> of support span con be used as a guideline to minimize visual deflection. Il ls important of this point to mention that there are two typical beam configurations. simple beam and continuous beam, and to clarify the difference.

A good example of a simple beam is o single slraight section of cable tray supported. but not fastened of either end. When lhe troy ls loaded the cable tray is allowed to flex. Simple beam analysis ls used almost universally for beam comparisons even though it is seldom practical In the freld Installations. The lhree most prominent reasons for using a simple beam analysis are: calculations ore slmpllfied; It represents lhe worst case loading: ond testing is slmple ond reliable. The pubfished lood dote In the SEGA.M cable troy cotolog is based on the simple beam analysis per NEMA & CSA Standards

Simple Beam

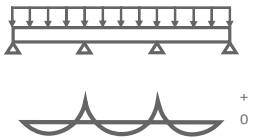


Continuous beam is the beam configuration most commonly used In cable tray Installations. An example of this configuration is where cable trays ore Installed across several supports to form a number of spans. The continuous beam possesses traits of both the simple and fixed beams. When equal loads are applied to all spans simultaneously, the counlerboloncing effect of lhe loads on both sides of a supporj restricts the movement of the cable tray at The support, The effect is similar to that of a fixed beam. The end spans behove substantially like simple beams. When cable trays of identical design are compared, the continuous beam installation will typically have approxlmately holf the deflection of o simple beam of lhe same span. Therefore simple beam data should be used only as a general comparison. The following factors should be considered when addressing cable tray deflection

l. Economic consideration must be considered when addressing cable deflection crileria.
2. Deflection in a cable tray system can be reduced by decreasing the support span, or by using a taller or stronger coble tray.
3. When comparing coble troys of equivalent strength, a steel cable tray will typically exhibit less Deflection than on aluminum coble troy since the modulus of elasticity of steel ls nearly three times that of aluminum.
4. The location of splices in a continuous spon will offecl the deflection of the cable tray system. The spkes should be located at points of minimum stress whenever pracllcal. NEMA Standards VE l limits the use of splice plates as

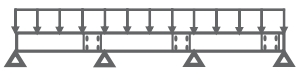
Follows: UN spliced slraight sections should be used on all simple spans and on end spans of continuous span runs. Straight section lengths should be eaual to or greater than the span length to ensure not more than one splice between supports. See the figures below for spUcing configuration Samples.

Typical Continuous Span Configuration

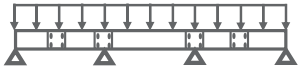


+ Maximum Positive Moment
- Maximum Negative Moment

Preferred Splice Plate Locations



Undesirable Splice Plate Locations



Technical Data

CABLE TRAY SELCTION

- Not all cables ore the same. To selecl the perfect coble support Syslem. you need to know which Types of cables ore lo be laid.
- Dalo cables. Which must be laid at o certain Distance from each other on account of the necessary shielding
- Power cables, for which a Not Inconsiderable heal buildup Must be allowed for? FOf all These applications SEGA.M con offer Tailor-mode system soluttons.

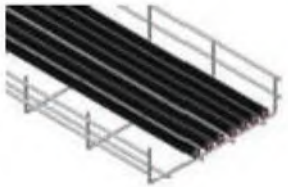
Perforated cable trays

Areas of oppncotlon: From low
Volrage cabling to power supply,



Mesh cable trays for the installation of light cables

Areas of application: IT cabRng.
Telephone cabling and conlrol cables. Also suitable for use In false Ceilings and cavity floors.



Cable ladders for power cables With a large cross-section

Areas of oppflcotlon: Cables and
Power conductOfS with large
Cross-sections. These con be Fastened lo the rungs using clomp Clips. The high lood copqclty And good ventilation ensure perf Coble lying





Supporting

PROFILES

Material

Steel 37 - Stainless steel (304 - 304L - 316 - 316L) - Aluminum (6063)

Finish

Hot dJp galvanized offer fobriootion
Electro plated
Electro static coated.

Technical Data

Standard length (2000-3000-6000 mm) - Standard thickness (2 - 2.5 - 3 mm)

Unistrut



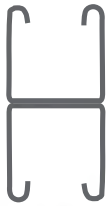
U-41X41
Single channel



Solid channal
SU-41X41



Perforated
PU-40X41



DU-4l x41
Double channel

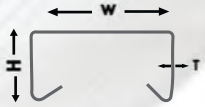


Solid channel
SDU-41 x41



Perforated
PDU-41x41

C Profile



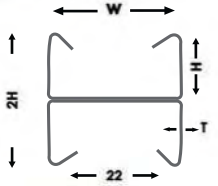
C- WxH
Single channel



Solid channel
SC - WxH



Perforated
PC - WxH



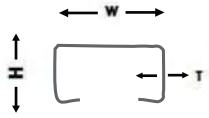
DC - WxH
Single channel



Solid channel
SDC - WxH



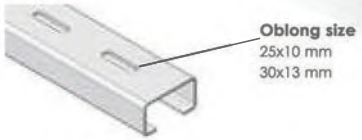
Perforated
PDC - WxH



CH - WxH
Single channel



Solid channel
SCH - WxH

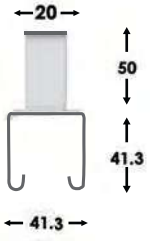


Perforated
PCH - WxH

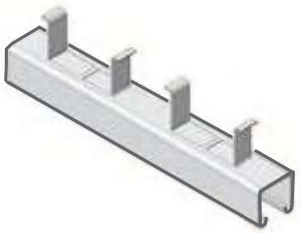
Available sizes for C channel

W	H	thickness
41	25	1.5 - 2 2.5 -3
40	41	1.5 - 2 2.5 -3
50	25	1.5 - 2 2.5 -3

Concrete insert Channel

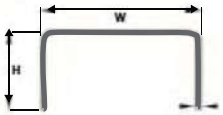


Clu



Supporting

U Channel



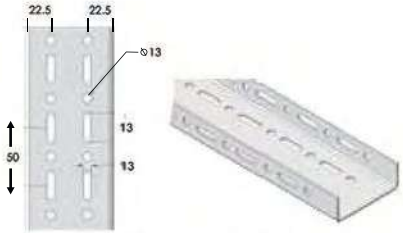
UC-WxH



Solid Channel (SUCH)
PUC-50X25



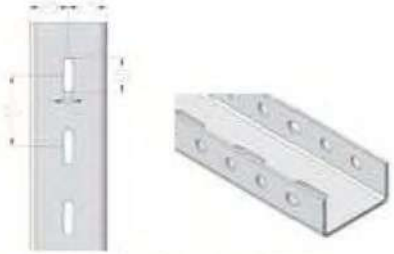
Perforated Channel 50x35 mm
PUC-50x35



Perforated Channel 90x45 mm
PUC-90x45

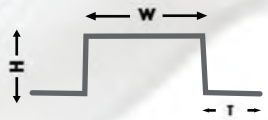
Availabl sizes

W	H	thickness
50	25	1.5 - 2
50	30	1.5 -2 - 2.5 -3
50	35	1.5 -2 - 2.5 -3
90	45	1.5 -2 - 2.5 -3



Perforated Channel 50x25 mm
PUC-50x25

Omega Channel



OC-WxHxa

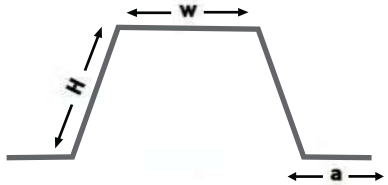


solid omega channel
SOC-WxHxa



Perforated omega channel (POCH)
POC-WxHxa

Angular Omega



OA-WxHxa



Solid omega channel
SOA-WxHxa

Abailable sizes

W	H	a	Thickness
25	25	25	1.5 - 2 2.5 -3
50	25	25	1.5 - 2 2.5 -3
50	50	25	1.5 - 2 2.5 -3

Another sizes are up on request

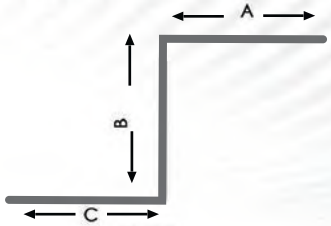


Perforated omega
POA-WxHxo

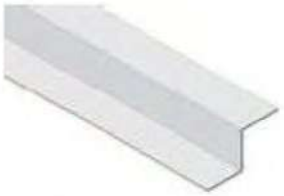
Z - Channel

Abailoble sizes

A	B	C	Thickness
25	25	25	2 - 2.5 - 3
25	25	25	2 - 2.5 - 3
50	50	50	2 - 2.5 - 3



Z - AXBXC



Solid - Z - channel

SZ - AxBxC



Perforated Z channel

PZ - AxBxC

Egual - L - Angle

Available sizes

A	B	Thickness
30	30	2 - 2.5 - 3
40	40	2 - 2.5 - 3
50	50	2 - 2.5 - 3
70	70	2 - 2.5 - 3



L-A - AxB



Solid equal

SLA - AxB



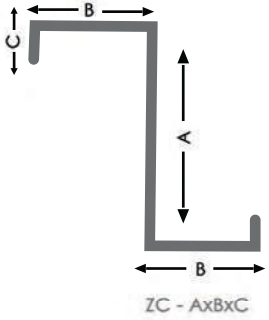
Perforated equal

PLA - AxB

Z - Channel

Available sizes

A	B	C	Thickness
75	50	15	2 - 2.5 - 3
100	50	15	2 - 2.5 - 3
150	50	15	2 - 2.5 - 3



ZC - AxBxC



Solid - Z - channel

SZC-AxBxC



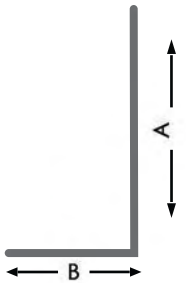
Perforated - Z -channel

PZC - AxBxC

Un Egual - L - Angle

Available sizes

A	B	Thickness
30	30	2 - 2.5 - 3
40	40	2 - 2.5 - 3
50	50	2 - 2.5 - 3
70	70	2 - 2.5 - 3



LU - AxB



Solid unequal

SLU - AXB



Perforated unequal

PLU - AxB

I Beam

Material

Steel 37

Finish

Hot dip galvanized after fabrication
Electro plated
Epoxy coated)



I - Hxb



SI - Hxb



PI - Hxb

Abailable sizes

H	b	length
100	50	1000 - 2000 - 3000 - 6000
80	40	1000 - 2000 - 3000 - 6000

T Beam





Available sizes

H	b	length
40	40	1000 - 2000 - 3000 - 6000
80	80	1000 - 2000 - 3000 - 6000

Accessories

Unistrut accessories

All the following accessories beam clamps, plates, angles & base plates have the some properties of C profile support system in Material, Finishes. (ASTM A 108 or ASTM A36)

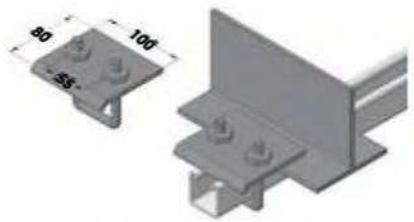
Material

Steel 37
Slainless steel (304 - 304 L- 316- 316L)

Finish

Hot dip galvanized ofter fabrication
Electro plated
Electro static coated
Spring nut Electro plated only

Beam Clamps



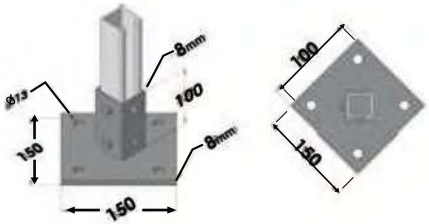
Beam clamp for single channel
(thickness 6 - 8 - 10 mml)
(BCSU)



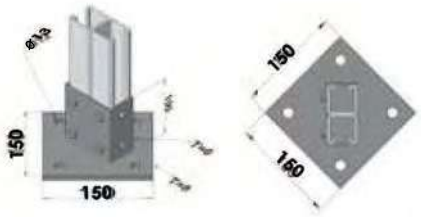
Beam clamp for double channel
(thickness 6 - 8 - 10 mml)
(BCSU)

Base Plate

Thickness (6-8-10 mm)



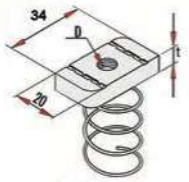
Base plate for single channel
(BPSU)



Base plate for double channel
(BPDU)

Unistrut Fitting

Spring nuts, Plates & angles thickness (6 - 8 -10 mm) according the loading.



Spring nul


U 1066



U 1036


U 1031


U 1358


U 1026


U 1326


U 1458


U 1325


U 1038


U 1359


U 2095


U 2106


U 2106


U 1045


U 1453


U 1047


U 2224


U 2346


U 2228

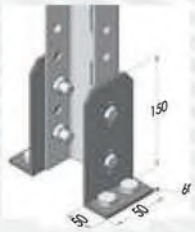
U Channel System accessories

Thickness (2 - 3 - 4 mm)



Joint for single channel
90x45 (JSC)


Joint for double channel
90x45 (JDC)



Base plate
(BUC)


Base plate double channel
(BOUC)


Head plate for channel
50x25 (hsuc)


Head plate for double channel
50X25 (HDUC)


Head plate for Angular Chanel
50X25 (HAUC)

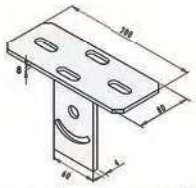

Head plate for channel 90X45
HP 90X45

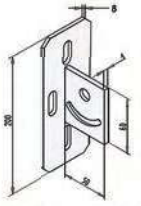

Head plate for channel 90X45
HP2 90X45

I beam System accessories

Thickness (4 - 6 - 8 - 10 mm)


Bose plate (IBP)


Angulor Head plate (AIH)


Angulor side head plate (AISH)

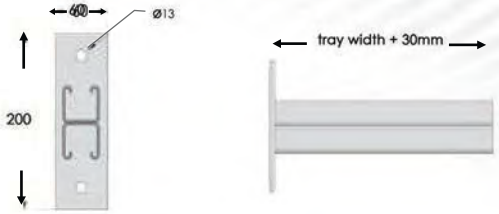

Single wall angle (ISA)


Double wall angle (IDAJ

Brackets

C Profile Bracket (CB)



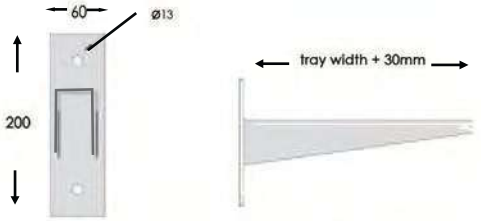


Channel length : Coble tray Width + 30 mm
Channel thickness : 2 mm for tray width (100 to 300)
2.5mm tor tray widlh(400 to 1000)

Welded plate size : 200 x 60mm
Welded plate thickness : 6 mm for tray width (100 to 300)
8 mm for tray width (400 to 1000)

Wall Bracket with welded plate (WB)





Bracket Length :
Welded plate size :
2 mm for traywidlh (100 lo 300)
3 mm for tray width(400 to 600)
6 mm for tray width (100 to 300)
8 mm for troy width (400 lo 600)

Brocket thickness : 2 mm for tray width (100 lo 300)
3 mm for tray width(400 to 600)
Welded plate thickness 6 mm for tray width (100 to 300)
8 mm for troy width (400 lo 600)

I beam bracket (IB)

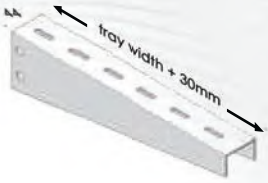


Bracket Length : Coble irey Width + 30 mm

Bracket thickness : 2 mm for traywidlh (100 to 300)
3 mm for tray width(400 to 600)

U Channel Bracket (UB)







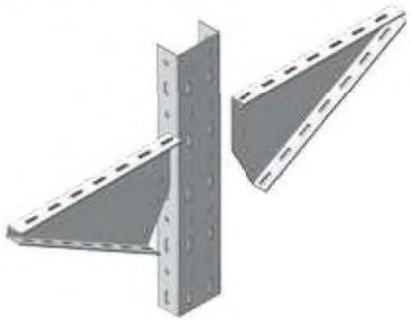
Brocket Lenglh : Coble tray Width + 55 mm
U channel size: 50 x 25 mm , 250 mm length
90 x 45 mm , 250 mm length

Bracket thidness : 2 mm for tray width I 100 lo 300)
3 mm for troy widlh f 400 lo 600)
U channel thickness : 2 mm lo, tray widlh (100 lo 300)
3 mm for tray width (400 fo 600)

Single bracket with U channel 90X45 mm (SUB)



Double bracket with U channel 90x45 mm (DUB)



Wall (L) Bracket (LB)

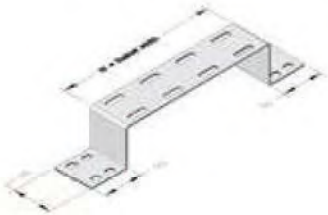
L Bracket size : 150 x 100 mm for coble froy,size (50 -100) mm width
300 x 150 mm for coble froy Size (150 -200) mm width

L Bracket thicknes : 2 mm thickness



Wall Omega (WO)

Omega thickness : 2 mm thickness for cable troys width from (100 to 300 mm)
3 mm thickness for cable trays width from (400 to 600 mm)
4 thickness for cable trays width from (80 to 1000mm)



Ceiling support (CS)





Channel Length : Cable tray Width + 100 mm

Channel thickness : 2 mm for tray width (100 to 300)
3 mm for tray width(400 to 1000)

Threoded rod length: 1000 mm

Threoded rod size : 6 mm for tray width (100 to 200)
8 mm for tray width(300 to 400)
10mm for tray width(500 to 600)
12mm for tray width(up to 1000)

Celling hanging support (CH)

This support for small sizes of cable trays

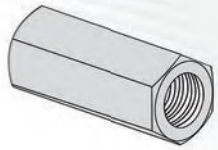
Cable trays size (50 - 100 - 150 - 200) mm width

Threaded rod size 6 - 8 mm diameter



Threaded Rod





Threoded rod coupling



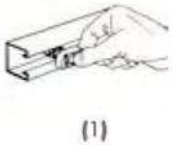
Threoded rod nut

Threoded size	length (mm)	Pitch	Max Recommended load (KN)
M6	2000	1	3.47
M8	2000	1.25	6.32
M10	2000	1.5	10.02
M12	2000	1.75	14.56
M16	2000	2	24.3
M20	2000	2.5	37.9

Assembly Examples

C Profile support system

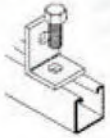




(1)



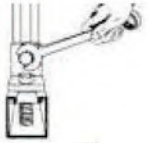
(2)



(3)



(4)



(5)











U Channel support system











I beam support system





Floor support







Ceiling support

Wall Support





Cable tray perforated

Perforated cable tray

Steel - Stainless steel - Aluminum

Snap on tray (standard)





Minimum Height = 55 mm
Maximum Height = 125 mm

U shape





Minimum Height = 25 mm
Maximum Height = 125 mm

Internal flange





Minimum Height = 40 mm
Maximum Height = 125 mm

External flange





Minimum Height = 40 mm
Maximum Height = 125 mm

** Cable tray width ≥ side height.*

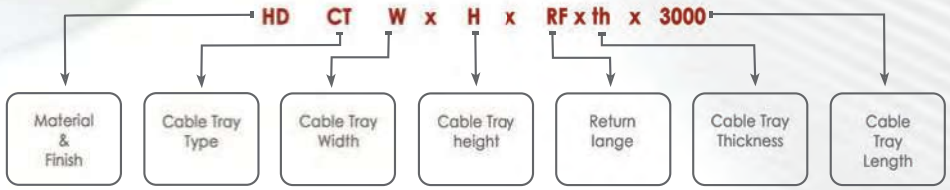
Manufacture

All cable trays manufactured according to NEMA ST ANDA RED VE1.

We can express about cable tray by the following example.

SEGA.M Description

EX..



Material & finish:

Steel 37

HD Hot dip galvanized atter fabrication.
PG Pre galvanized .
EP Electro plated.
ES Electro static pointed.

Stainless steel

SS316 Stain less steel 316
SS316L Stain less steel 316L
SS304 Stain less steel 304
SS304L Stain less steel 304L

Aluminum

AL Aluminum alloy 6063.

Cable tray type:

CT Cable troy perforated type (Snap on tray).
CTU Cable troy perforated U shape.
CTI Cable troy perforated internal flange.
CTE Cable troy external flange.

Cable tray width:

Cable tray width (W) its value varies from 50 mm to 600 mm.

Cable tray height:

Cable tray height (H) standard value (snap on tray = 55 mm to 125 mm).

Return Flange:

Coble tray return flange standard value is 10 mm.
In case of tray u shape return flange value is 0.

Cable tray thickness:

Cable tray thickness value is from 1 to 2 mm.

Cable tray Length:

Cable tray length standard value is 2000, 3000 mm
(6000 mm length is os ctient required).

Cable tray perforated

(Snap on tray)

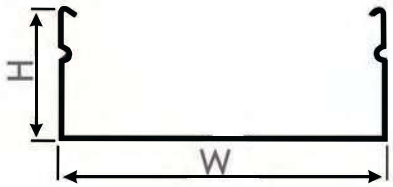
Straight Element

Steel - Stainless Steel - Aluminum

- Snap on tray is standord cable tray produced in SEGA.M.
- Standard length 2000 mm - 3000 mm.

width (w)	Height (H)	Thickness (T)
100		
200		
300	55	1
400	to	to
500	125	2
600		





Cable trays width 700 to 1000 mm is available with 2 mm thickness up on request.

Example for order

SEGA.M Description

EX.

HD CT 300 x 55 x 10 x 1 x 3000

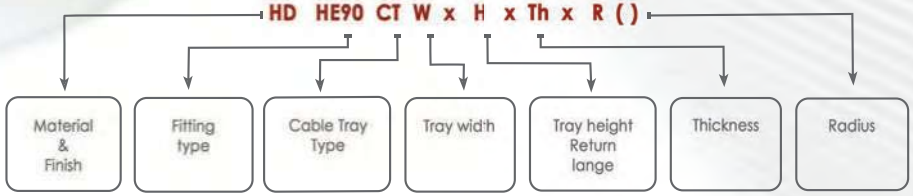
Hot dip galvanized atter fabrication cable tray perforated, 300 mm width, 55mm side height, l0mm return flange 1 mm thickness, 3000 mm length.

Cable tray perforated (Fitting)

Steel - Stainless steel - Aluminum

Example for order SEGA.M Description

Ex.



Fitting type means

VE90: Horizontal Elbow 90.

HE45: Horizontal Elbow 45.

HT: Horizontal Tee.

HOT: Horizontal offset Tee.

HC: Horizontal Cross

HRR: Horizontal Right Reducer.

HCR: Horizontal Center Reducer..

HLR: Horizontal Left Reducer.

VOE 90 : Vertical Outside elbow 90

VIE 90 : Vertical Inside elbow 90

VOE 45 : Vertical Outside elbow 45

VIE 45 : Vertical Outside elbow 90

VJOE : Verllcal Jointed Outside elbow

VJOE : Verlical Jointed Inside elbow

VT :Vertical Tee

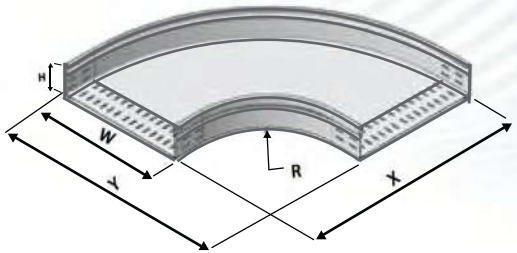
Standard Radius :

- 140 mm for troy width up to 250 mm
- 240 mm for troy width from 300 mm to 1000 mm.

Cable tray perforated

HORIZONTAL ELBOW 90°

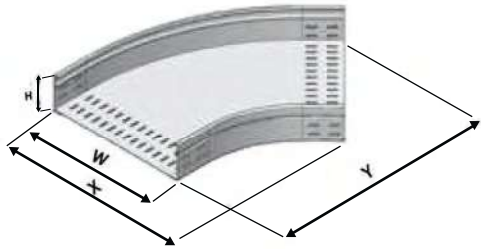
width (w)	width (H)	(X)	(Y)	Radius (R)
50	55 to 125	290	290	140
100		340	340	
200		440	440	
300		640	640	240
400		740	740	
500		1340	1340	
600		940	940	



SEGA.M Description
Example for order.
HD HE90 CT300 x 100 x1.5
Hot dip galvanized ailer fobricotton horizontal Elbow 90° for coble troy300 mm widih, 100 mm side height, and 10mm return flange, 1.5 mm thickness.

HORIZONTAL ELBOW 45°

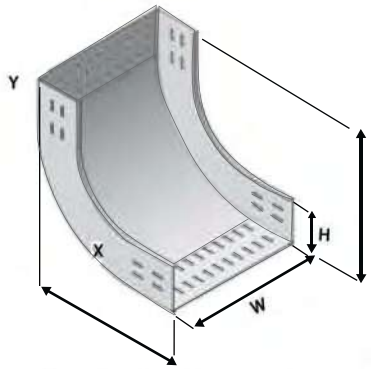
width (w)	width (H)	(X)	(Y)	Radius (R)
50	55 to 125	350	161	140
to		340	211	
200		411	311	
300		552	441	240
400		623	541	
500		694	641	
600		764	741	



SEGA.M Description
Example for order
PG HE45 CT400 x 90 x 10 x 1.5
Pre galvanized before fabricolion horizontal Elbow 45° for cable tray400 mm Width, 90 mm side height, and 10mm return flange, 1.5 mm thickness.

VERTICAL INSIDE ELBOW 90°

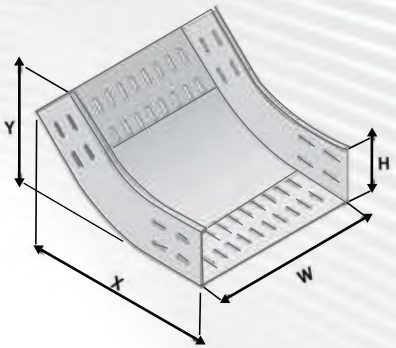
width (w)	width (H)	(X)	(Y)	Radius (R)
50 to 200	55	295	295	140
	60	300	300	
	90	330	330	
	110	350	350	
300 to 600	55	495	495	240
	60	400	400	
	80	430	430	
	100	450	450	



SEGA.M Description
Example for order.
EC VEI90 CT200 x 60 x 10 x1
Electro plated Vertical Elbow Inside 90° for cable tray 200 mm widtn, 60 mm siae neignt, ana 10mm return flange, 1 mm thickness.

VERTICAL INSIDE ELBOW 45°

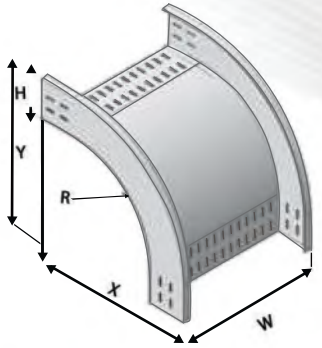
width (w)	width (H)	(X)	(Y)	Radius (R)
50 to 200	55	295	151.7	140
	60	300	151.7	
	90	320	201.7	
	110	340	221.7	
300 to 600	55	395	181	240
	60	400	201	
	90	420	231	
	110	440	251	



SEGA.M Description
Example for order.
EC VEI45 CT200 x 60 x 10 x 1
Electro plated Vertical Elbow Inside 45° for cable tray 200 mm Width, 60 mm side height, and 10mm return flange, 1 mm thickness.

VERTICAL OUTSIDE ELBOW 90°

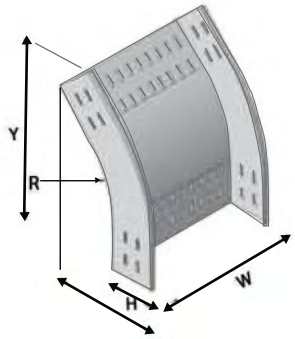
width (w)	width (H)	(X)	(Y)	Radius (R)
55	50 to 200	295	295	140
60		300	300	
90		330	330	
110		350	350	
55	300 to 600	495	495	240
60		400	400	
80		430	430	
100		450	450	



SEGA.M Description
Example for order.
SS316 VEO90 CT300 x 100 x 10 x 1
Stainless steel 316 Vertical Elbow outside 90° for cable tray 300 mm width, 100 mm side height, and 10mm return flange, 1 mm thickness.

VERTICAL OUTSIDE ELBOW 45°

width (w)	width (H)	(X)	(Y)	Radius (R)
50 to 200	55	151.7	295	140
	60	171.7	300	
	90	201.7	320	
	110	221.7	340	
300 to 600	55	181	395	240
	60	201	400	
	90	231	420	
	110	251	440	



SEGA.M Description
Ex.
SS316 VEO45 CT300 x 100 x 10 x 1
stainless steel 316 Vertical Elbow outside 45° for cable tray 300 mm Width, 100 mm side height, and 10mm return flange, 1 mm thickness.

Vertical jointed (Change of level)

Vertical Jointed Inside elbow (VJIE)



SEGA. M description
Ex.
HD VJIE CT 200x100x10x 1.5
Hot dip galvanized otter fabrication Vertical Jointed Inside elbow for cable tray width 200 mm , side height 100 mm , 10 mm return flange , 1.5 mm thickness.

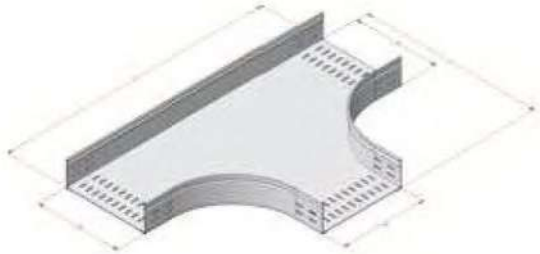
Vertical Jointed outside elbow (VJOE)



SEGA. M description
Ex.
HD VJOE CT 200x100x10x1.5
Hot dip galvanized after fabricolion Vertical jointed outside elbow for cable troy width 200 mm , side height 100 mm , 10 mm return flange , 1.5 mm thickness.

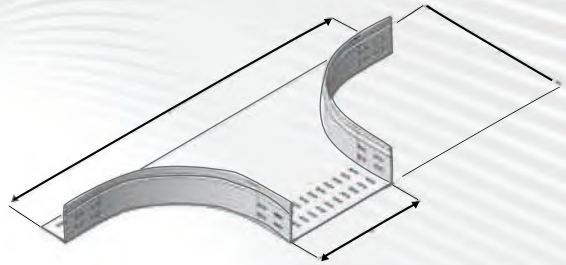
HORIZONTAL TEE

width (w)	width (H)	(X)	(Y)	Radius (R)
50	55 to 125	530	290	140
100		580	340	
200		680	440	
300		980	640	240
400		1080	740	
500		1180	840	
600		1280	940	



SEGA. M Description
Example for order.
HD HT CT300 x 100 X 10 x1.5
Hot dip galvanized after fabrication horizontal Tee for ca ble tray300 mm Width, 100 mm side height, and 10 mm return ftange, 1.5 mm Thickness.

HORIZONTAL OFFSET TEE



SEGA. M Description
Example for order.
HD HOT 200 x 100 x 10 x1
Hot dip galvanized horizontal offset Tee for tray 200 mm width, 100 mm side height, and 10 mm return flange, 1.5 mm thickness.

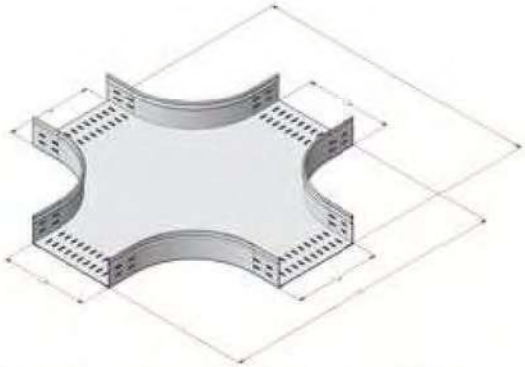
width (w)	width (H)	Radius (R)
50	55 to 125	140
100		
200		
300		240
400		
500		
600		



SEGA. M Description
Example for order.
EC VT CT200 x 80 x 10 x1
Electro plaled Vertical Tee for coble tray 200 mm width, 80 mm side heigh I, and 10mm return flange, 1 mm thickness.

HORIZONTAL CROSS

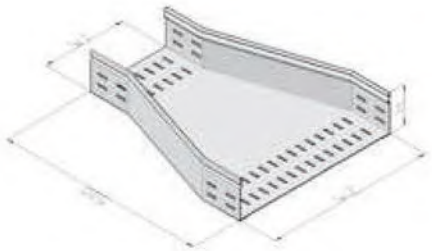
width (w)	width (H)	(X)	(Y)	Radius (R)
50	55 to 125	530	530	140
100		580	580	
200		680	680	
300		980	980	240
400		1080	1080	
500		1180	1180	
600		1280	1280	



SEGA. M Description
Example for order.
HD HC CT300 x 100 x 10 x1.5
Hot dip galvanized ofter fabrication horizontal Cross for cable tray300 mm width, 100 mm side height, and 10mm return flange, 1.5 mm thickness.

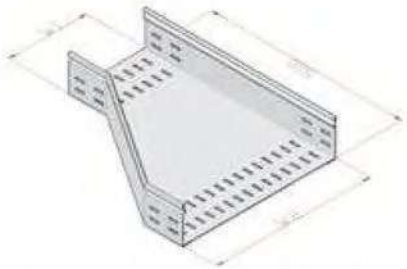
HORIZONTAL REDUCER

CENTER REDUCER



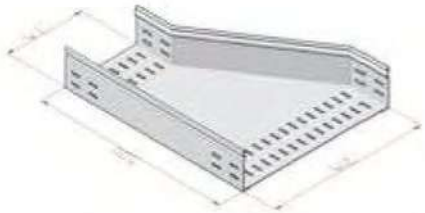
SEGA.M Description
Example for order.
HD HLR CD300 x 100 X 10 x 1.5
Hot dip gotvanized after fabrication horizontal Center redncer for cable tray 300 mm width, 100 mm side height, and 10mm return flange, 1.5 mm thickness.

RIGHT HAND REDUCER



SEGA.M Description
Example for order.
HD HLR CT 300 X 100 X 10 X1.5
Hot dip galvanized after fabrication horizontal Right redncer for cable tray 300 mm width, 100 mm side height, and 10mm return nonge, 1.5 mm thickness.

LEFT HAND REDUCER



SEGA.M Description
Example for order.
HD HLR CT 300 X 100 X 10 X1.5
Hot dip galvanized after fabrication horizontal Left redncer for cable tray 300 mm width, 100 mm side height, and 10mm return nonge, 1.5 mm thickness.

Cable tray covers

Straight element cover

Steel - Stainless Steel - Aluminum

All properties of cover are the same properties of its tray.
Standard length is 2000, 3000 mm.



(CTC) Snap on cover
(standard)



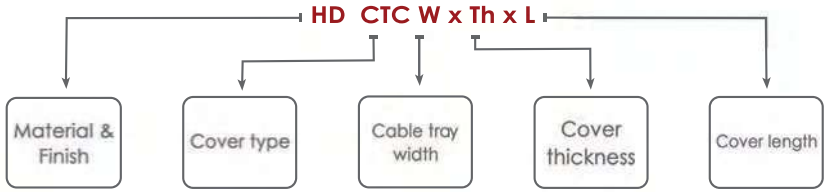
(CTPC)
Pyramid Shope cover



(CTUC)
U Shape cover

SEGA. M Description

Ex.



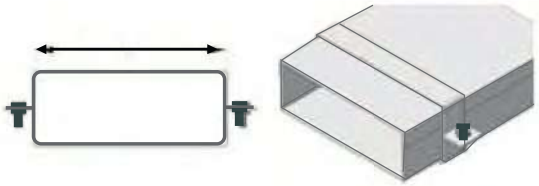
Example for order

HD CTC 300x1x3000

Hot dip galvanized after fabrication cover for cable tray 300 mm width, 1 mm thickness. 3000 mm length.

Available sizes of cover

SEGA.M Description	width (H)	Radius (R)
cover 50	50	1 To 2
cover 100	100	
cover 200	200	
cover 300	300	1.25 To 2
cover 400	400	
cover 500	500	
cover 600	600	



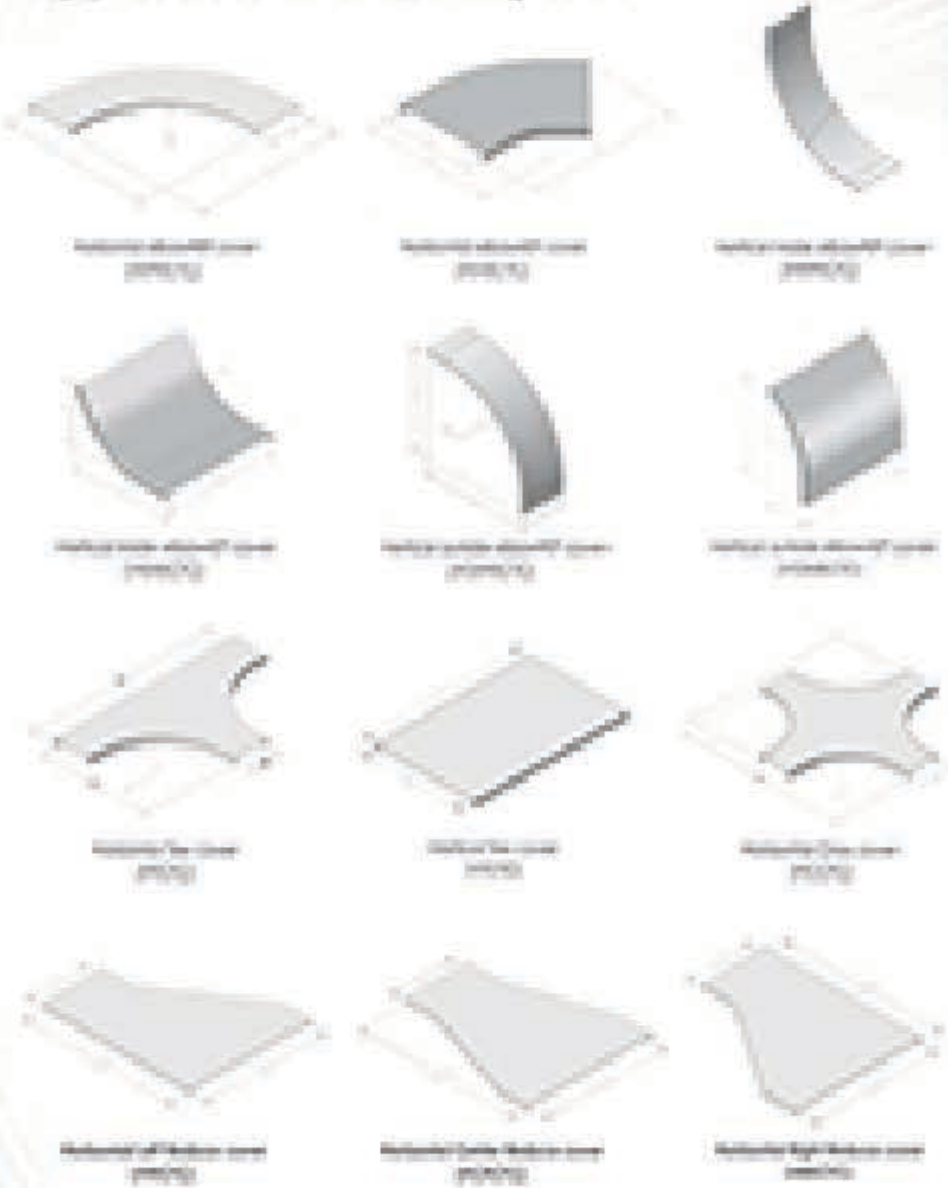
Cover clamp for fixing U shape cover

Coble troys cover width 700 to 1000 mm is available with 2 mm thickness on request.

Fitting Covers

Steel - Stainless Steel - Aluminum

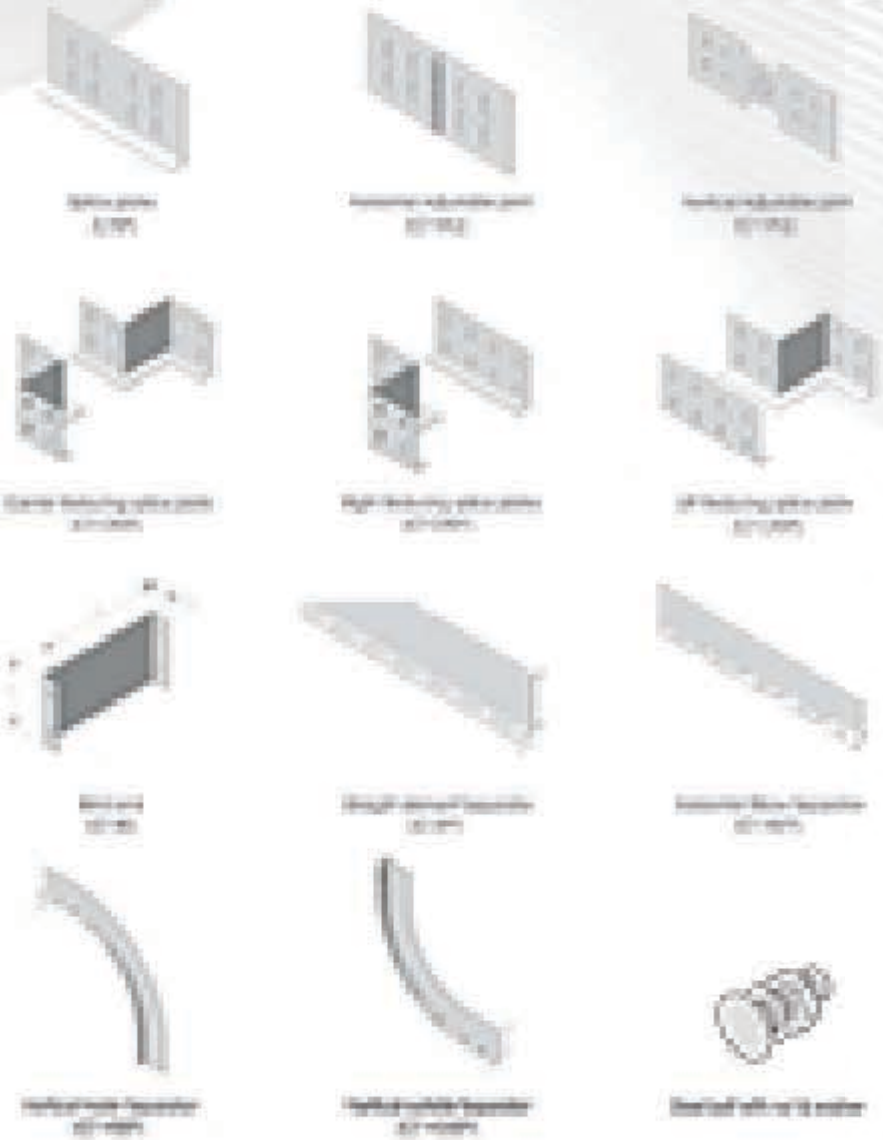
All properties of cover are the same of the cover of straight element



Accessories

Steel - Stainless Steel - Aluminum

All properties of accessories are the same of the straight element







Cable tray duct

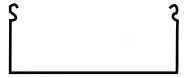
Closed cable tray (Duct)

Straight Element

Steel - Stainless Steel - Aluminum

Snap on tray (Standard)





Minimum Height = 55 mm
Maximum Height = 125 mm

U shape





Minimum Height = 25mm
Maximum Height = 125 mm

Internal flange





Minimum Height= 40 mm
Maximum Height= 125 mm

External flange





Minimum Height= 40 mm
Maximum Height= 125 mm

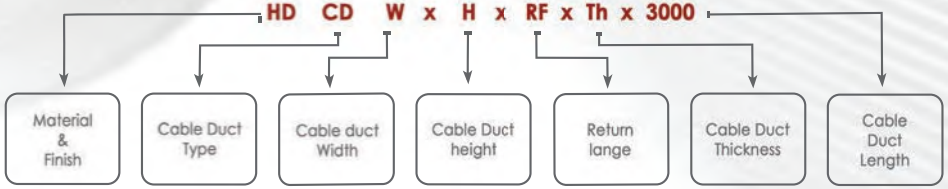
** Cable duet width ≥ side height*

Manufacture

We con express about cable Duel by the following example.

SEGA.M Description

Ex.



Material & finish:

Steel 37

HD Hot dip galvanized otter fabrication.
PG Pre galvanized
EP Electro plated.
ES Electro static painted.

Stainless steel

SS316 Stain less steel 316
SS316L Stain less steel 316L
SS304 Stain less steel 304
SS304L Stain less steel 304L

Aluminum

AL Aluminum alloy 6063.

Cable Duct type:

CD Cable Duct type (Snap on Duct).
CDU Cable Duet U shape.
CDI Cable Duet Inlemol flange.
CDE Cable Duct external flange.

Cable Duct width:

Cable Duel width (W) its value varies from 50 mm to 600 mm.

Cable Duct height:

Cable Duel height (H) standard value (snap on Duel = 55 mm to 125 mm.

Return Flange:

Cable Duet return flange standard value is 10 mm.
In case of Duct U shape return flange value Is 0.

Cable Duct thickness:

Cable Duel thickness value is from 1 to 2 mm.

Cable Duct Length:

Cable Duct length standard value is 2000, 3000 mm
(6000 mm length is as dlient required).

Cable tray closed

(Snap on Duct)

Straight Element

Steel - Stainless Steel - Aluminum

- Snap on troy is standard cable tray produced in SEGA. M.
- Standard length 2000 mm - 3000 mm

width (w)	Height (H)	Thickness (T)
50	55 to 125	1 to 2
100		
200		
300		
400		
500		
600		





Cable trays width 700 to 1000 mm is available with 2 mm thickness up on request.

Example for order

SEGA.M Description

EX.

HD CD 200 x 100 x 10 x 1.5 x 3000

Hot dip galvanized after fabrication cable trayDuct type, 200 mm width, 100mm side height, 10 mm return flang 1.5mm thickness, 3000 mm length.

Cable duct (Fitting)

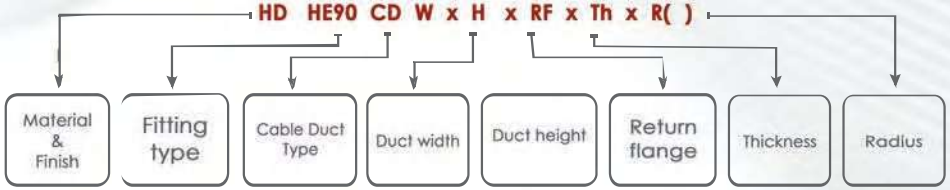
Steel - Stainless Steel - Aluminum

All Cable duct fitting has the same properties of its cable duel in (size - thickness - finish).

SEGA.M Description

Ex.

HD HE90 CD W x H x RF x Th x R( )



Fitting type means

HE90: Horizontal Elbow 90.

HE45: Horizontal Elbow 45.

HT: HoriZontal Tee.

HOT: Horizontal offset Tee.

HC: Horizonlal Cross

HRR: Horizontal Righi Reducer.

HCR: Horizontal Center Reducer.

HLR: Horizontal Left Reducer.

VOE 90 : Vertical Outside elbow 90

VIE 90 : Vertical Inside elbow 90

VOE 45 : Vertical Outside elbow 45

VIE 45 : Vertical Outside elbow 90

VJOE : Vertical Jointed Outside elbow

VJOE : Vertical Jointed Inside elbow

VT : Vertical Tee

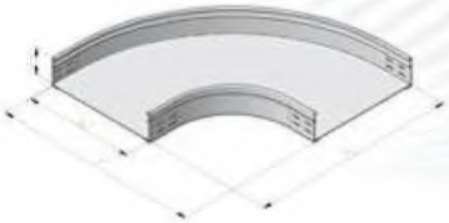
Standard Radius :

- 140 mm for tray width up to 250 mm
- 240 mm for tray width from 300 mm to 1000 mm.

Cable tray duct

HORIZONTAL ELBOW 90°

width (w)	width (H)	(X)	(Y)	Radius (R)
50	55 to 125	290	290	140
100		340	340	
200		440	440	
300		640	640	240
400		740	740	
500		1340	1340	
600		940	940	



SEGA.M Description
Example for order.
HD HE90 CD 300 x 100 x 10 X1.5
Hot dip galvanized after fabrication horizontal Elbow 90º for cable duct 300 mm widih, 100 mm side height, and 10mm return flange, 1.5 mm thickness.

HORIZONTAL ELBOW 45°

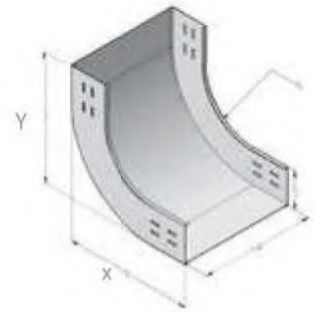
width (w)	width (H)	(X)	(Y)	Radius (R)
50 to 200	55 to 125	350	161	140
		340	211	
		411	311	
300		552	441	240
400		623	541	
500		694	641	
600		764	741	



SEGA.M Description
Example for order
PG HE45 CD 400 x 90 x 10 x 1.5
Pre galvanized horizontal Elbow 45º for cable duct 400 mm width, 90 mm side height, and 10mm return flange, 1.5 mm thickness.

VERTICAL INSIDE ELBOW 90°

width (w)	width (H)	(X)	(Y)	Radius (R)
50 to 200	55	295	295	140
	60	300	300	
	90	330	330	
	110	350	350	
300 to 600	55	495	495	240
	60	400	400	
	80	430	430	
	100	450	450	



SEGA.M Description
Example for order.
EC VEI90 CD 200 x 60 x 10 x1
Electro plated Vertical Elbow inside 90º for cable tray 200 mm widtn, 60 mm siae neignt, ana 10mm return flange, 1 mm thickness.

VERTICAL INSIDE ELBOW 45°

width (w)	width (H)	(X)	(Y)	Radius (R)
50 to 200	55	295	151.7	140
	60	300	151.7	
	90	320	201.7	
	110	340	221.7	
300 to 600	55	395	181	240
	60	400	201	
	90	420	231	
	110	440	251	



SEGA.M Description
Example for order.
EC VEI45 CD 200 x 60 x 10 x1
Electro plated Vertical Elbow Inside 45° for cable duct 200 mm Width, 60 mm side height, and 10mm return flange, 1 mm thickness.

VERTICAL OUTSIDE ELBOW 90°

width (w)	width (H)	(X)	(Y)	Radius (R)
55	50 to 200	295	295	140
60		300	300	
90		330	330	
110		350	350	
55	300 to 600	495	495	240
60		400	400	
80		430	430	
100		450	450	



SEGA.M Description
Example for order.
SS316 VEO90 CD 300 x 100 x 10 x 1
Stainless steel 316 Vertical Elbow outside 90° for cable tray 300 mm width, 100 mm side height, and 10mm return flange, 1 mm thickness.

VERTICAL OUTSIDE ELBOW 45°

width (w)	width (H)	(X)	(Y)	Radius (R)
50 to 200	55	151.7	295	140
	60	171.7	300	
	90	201.7	320	
	110	221.7	340	
300 to 600	55	181	395	240
	60	201	400	
	90	231	420	
	110	251	440	



SEGA.M Description
Ex.
SS316 VEO45 CD 300 x 100 x 10 x 1
stainless steel 316 Vertical Elbow outside 45° for cable duct 300 mm Width, 100 mm side height, and 10mm return flange, 1 mm thickness.

Cable tray duct

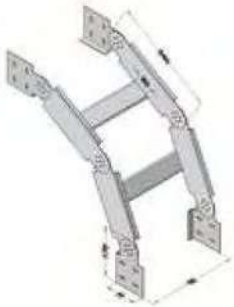
VERTICAL JOINTED (CHANGE OF LEVEL)

Vertical jointed inside elbow



SEGA. M description
Ex.
HD VJIE CT 200x100x10x 1.5
Hot dip galvanized otter fabrication Vertical Jointed Inside elbow for cable Duct width 200 mm , side height 100 mm , 10 mm return flange , 1.5 mm thickness.

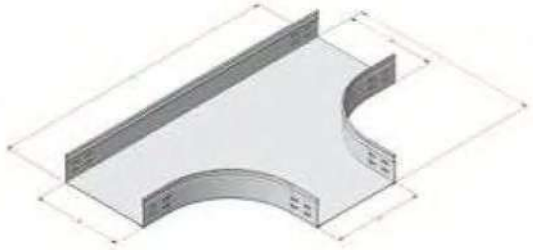
Vertical jointed outside elbow



SEGA. M description
Ex.
HD VJOE CT 200x100x10x1.5
Hot dip galvanized after fabricolion Vertical jointed outside elbow for cable tray width 200 mm , side height 100 mm , 10 mm return flange , 1.5 mm thickness.

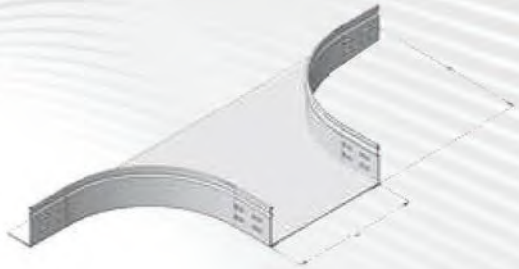
HORIZONTAL TEE

width (w)	width (H)	(X)	(Y)	Radius (R)
50	55 to 125	530	290	140
100		580	340	
200		680	440	
300		980	640	240
400		1080	740	
500		1180	840	
600		1280	940	



SEGA. M Description
Example for order.
HD HT CD 300 x 100 X 10 x1.5
Hot dip galvanized after fabrication horizontal Tee for cable duct 300 mm Width, 100 mm side height, and I 0mm return flange, 1.5 mm thickness.

HORIZONTAL OFFSET TEE



SEGA. M Description
Example for order.
HD HOT 200 x 100 x 10 x1
Hot dip galvanized after fabrication horizontal offset Tee for cable Duel 200 mm width, 100 mm side height, and 10 mm return flange, 1.5 mm thickness.

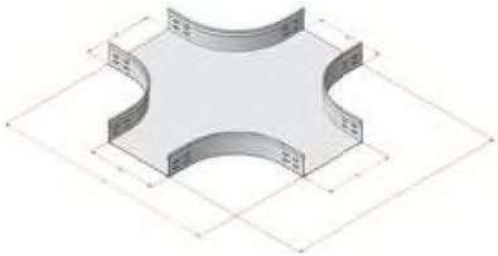
width (w)	width (H)	Radius (R)
50	55 to 125	140
100		
200		
300		240
400		
500		
600		



SEGA. M Description
Example for order.
EC VT CD 200 x 80 x 10 x1
Electro plaled Vertical Tee for coble tray 200 mm width, 80 mm side heigh I, and 10mm return flange, 1 mm thickness.

HORIZONTAL CROSS

width (w)	width (H)	(X)	(Y)	Radius (R)
50	55 to 125	530	530	140
100		580	580	
200		680	680	
300		980	980	240
400		1080	1080	
500		1180	1180	
600		1280	1280	



SEGA. M Description
Example for order.
HD HC CD 300 x 100 x 10 x1.5
Hot dip galvanized ofter fabrication horizontal Cross for cable duct 300 mm width, 100 mm side height, and 10mm return flange, 1.5 mm thickness.

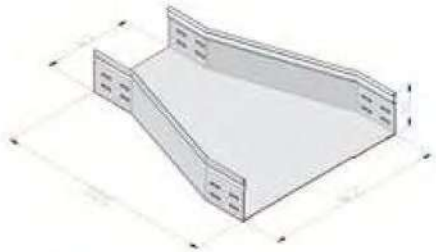
HORIZONTAL REDUCER

LEFT HAND REDUCER



SEGA.M Description
Example for order.
HD HLR CD300 x 100 X 10 x1.5
Hot dip galvanized ofter fabrication horizontal Lett redncer for cable tray 300 mm width, 100 mm side height, and 10mm return flange, 1.5 mm thickness.

CENTER REDUCER



SEGA.M Description
Example for order.
HD HLR CD300 x 100 X 10 x1.5
Hot dip galvanized ofter fabrication horizontal Center redncer for cable tray 300 mm width, 100 mm side height, and 10mm return flange, 1.5 mm thickness.

RIGHT HAND REDUCER



SEGA.M Description
Example for order.
HD HLR CD300 x 100 X 10 x1.5
Hot dip galvanized ofter fabrication horizontal Right redncer for cable tray 300 mm width, 100 mm side height, and 10mm return flange, 1.5 mm thickness.

Cable tray covers

Straight element cover

Steel - Stainless Steel - Aluminum

All properties of cover ore the same properties of its tray. .
Standard length is 2000, 3000 mm.



(CTC) Snap on cover
(standard)



(CTPC)
Pyramid Shape cover



(CTUC)
U Shape cover

EGA.M Description

EX.

HD CTC W x Th x L

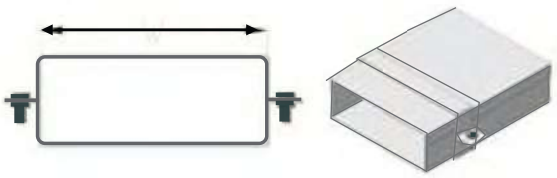
- Material & Finish
- Cover type
- Cable Duct width
- Cover thickness
- Cover Length

Example for order (HD CDC 200 x 1 x 3000)

Hot dip galvanized after fabrication cover for cable duct 200 mm width, 1 mm thickness, 3000 mm length.

Available sizes of cover

SEGA.M Description	width (w)	Thickness (T)
cover 50	50	1 to 2
cover 100	100	
cover 200	200	
cover 300	300	
cover 400	400	1.25 to 2
cover 500	500	
cover 600	600	



Cover clamp for fixing U shape cover

Cable trays cover width 700 to 1000 mm is available with 2 mm thickness on request.

Fitting Covers

Steel - Stainless Steel - Aluminum

All properties of cover are the same of its cover of straight element.



Horizontal elbaw90° cover
(HE90CTC)



Horizontal elbaw45° cover
(HE4SCTC)



Verlical inside elbow90° cover
(VIE90CTC)



Vertical inside elbow45° cover
(VIE45CTC)



Vertical outside elbow90° cover
(VOE90CTC)



Vertical outside elbow45° cover
(VOE45CTC)



Horizontal Tee cover
(HTCTC)



Vertical Tee cover
(VTCTC)



Horizontal Cross cover
(HCCTC)



Horizonlal lefl Reduce cover
(HIRCTC)



Horizonlal Center Reduce cover
(HCRCTC)



Horizontal Righi Reduce cover
(HRRCTC)

Accessories

Steel - Stainless Steel - Aluminum

All properties of accessories are the same of its straight element.



Splice plate
(CTSP)



Hocizontal Adjustable joint
(CT HAJ)



Vertial Adjustable joint
(CT VAJ)



Center Reducing splice plate
(CT CRSP)



Righi Reducing splice plate
(CT CRSP)



Lift Reducing splice plate
(CT CRSP)



Blind end
(CT BE)



Sfraight elemen' Separator
(CT SPP)



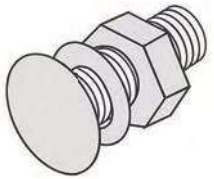
Horizontal Elbow Separator
(CT HSEP)



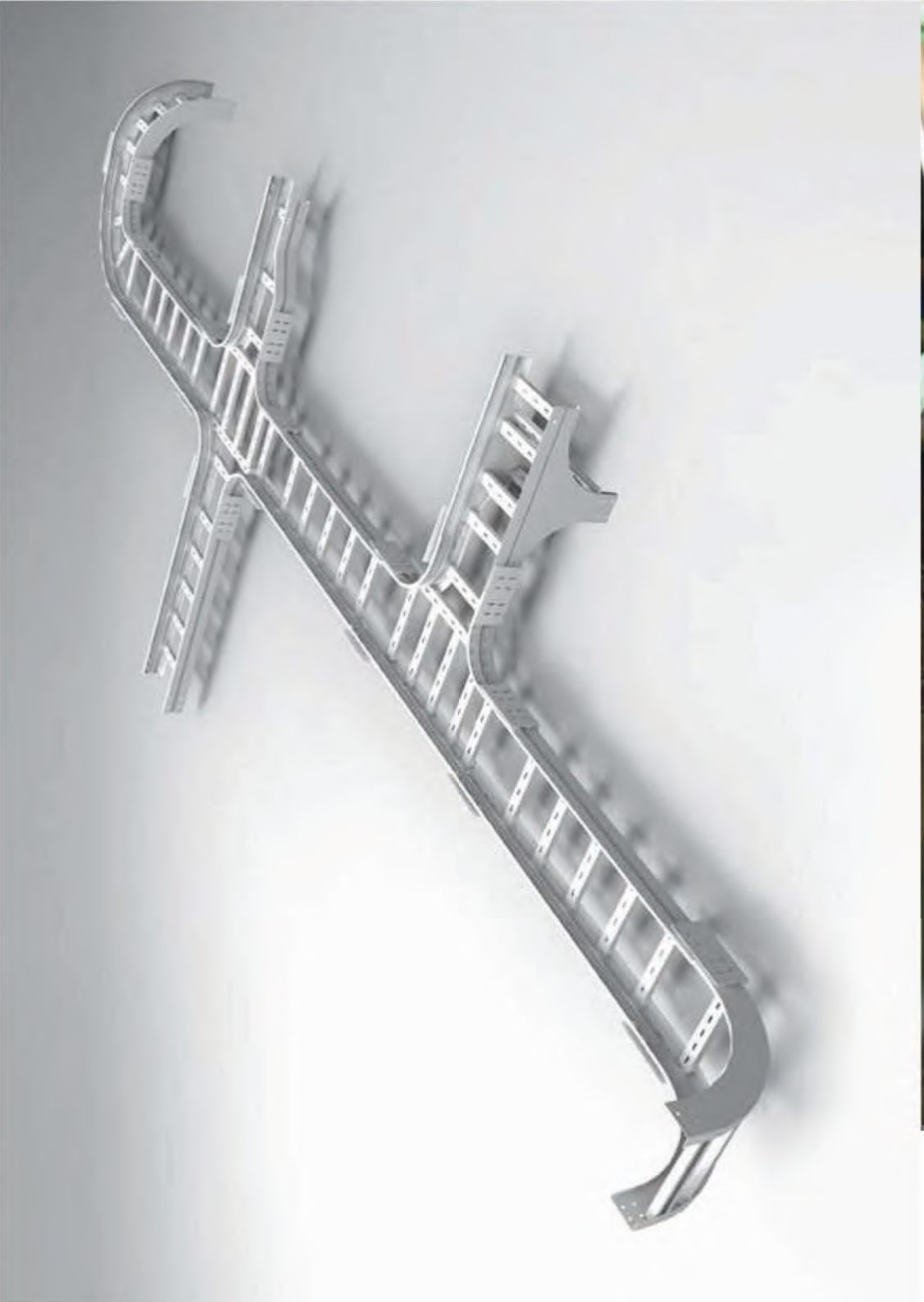
Vertical inside Separator
(CI VISEP)



Vertical outside Separator
(CT IVOSEP)



Steel bolt with nut & washer





Cable tray Ladder

Cable tray Ladder type

Steel - Stainless Steel

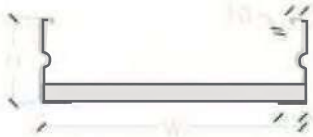
Light Duty





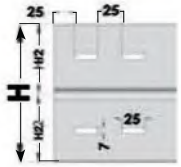
(Heavy Duty)



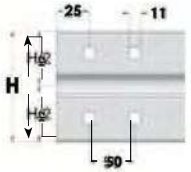


Ladder side & Bolts

Bolt size 6mm x 20
8mm x 25



Bolt size 8mm x 25
10mm x 30



SEGA.M Description

EX.

HD CL W x H x t x L - R= BxCxt - S

Material & Finish	Cable Tray Ladder Type	Cable Ladder Width	Ladder Height	Ladder thickness	Ladder Length	Rungs size & thickness	Rungs spacing

Material & Finish

Steel

HD Hot dip gotvonized after fabrication according to **ASTM A 123**
PG Pre galvanized before fabncation according to **ASTMA 653SS**
EP Electro plated ofter fabrication **ASTM 8 633**
EC Epoxy cooled

Stainless Steel

SS 304 stainless steel 304
SS 304L stainless steel 304L ASTM A240
SS 316 stainless steel 316
SS 316L stainless steel 316L

Cable tray type

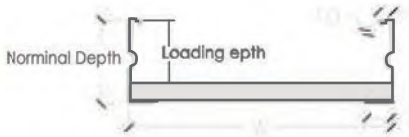
Cable tray type CL = cable ladder

Cable tray width

Cable tray ladder type width w = (100 - 200 - 300 - 400 - 500 - 600 - 700 - 800 - 900 - 1000 - 1200) mm

Cable tray height

Cable tray ladder type height H =
(60 - 100 - 125 - 150 - 175 - 200) mm
Loading Depth = Nominal Depth - C (Rung Height)



Ladder thickness

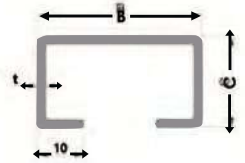
Light duty ladder thickness t = 1.5 mm
Heavy Duty ladder Thickness t = 2 mm

Ladder length

Ladder standerd length L = 2000 & 3000 & 6000 mm.

Rungs size

B	C
30	15
40	20
40	25
50	25



Rungs spacing

S = Standard rung spacing = (300 - 250 - 225) mm

Fixing Rungs on ladder sides



Standard



Reversed rungs

(Steel)

Welded with Co2

(Stainless steel)

Welded with Argon

Standard



Welded Rungs

Suitable for pre galvonized steel cable ladder



Bolted Rungs

Suitable for pre galvonized steel cable ladder



Riveted Rungs

Cable tray Ladder type

Straight Element - Steel - Stainless Steel

Available Sizes

width (w)	height (H)	Thickness (T)	length (L)
100	60 & 100 & 125	1.5 & 2	2000 & 3000 & 6000
200			
300			
400			
600			
700			
800			
900			
1000			
1200			
200	150 & 175 & 200	1.5 & 2	2000 & 3000 & 6000
300			
400			
500			
600			
700			
800			
900			
1000			
1200			



SEGA.M Description

EX.

HD CL 300x150x2x6000-R40x25x2 S=225

Hot dip galvanized after fobrication cable tray ladder type, 300 rnm width, 150mm side height, 2mm thickness, 6000 mm length, rungs size 40x25mm, 2mm thickness, rungs spacing 225 mm from center

Cable tray Ladder type (Fitting)

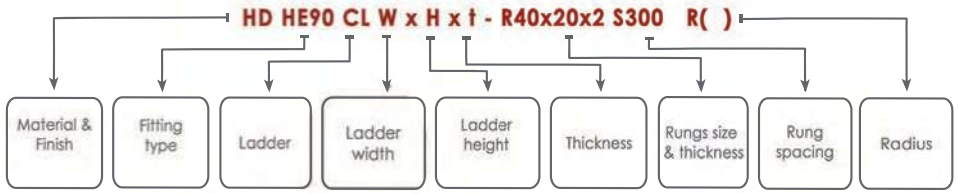
Steel - Stainless steel

All Cable trays Ladder type fitting has the same properties of its cable ladder
In (size - thickness - finish).

Cable tray Ladder type (Fitting)

SEGA.M Description

EX.



All Cable trays Ladder type fitting has the same properties of its cable ladder
In (size - thickness - finish).

Fitting type means

HE90: Hortzontal Elbow 90°
HE45: Horizontal Elbow 45°.
HT: Horizontal Tee.
HC: Horizontal Cross.
HRR: Horizontal Right Reducer.
HCR: Hortzontol Center Reducer.
HLR: Hortzontol Lett Reducer.

VEI90: Vertical Elbow 90 Inside.
VEO90: Vertical Elbow 90 Outside.
VEI45: Vertical Elbow 45 Inside.
VEI45: Vertical Elbow 45 Outside.
VT: Vertical Tee.
VJIE: Vertical jointed inside elbow.
VJOE: Vertical jointed Outside elbow.

Radius:

Standard value of fitting radius is:
300 mm for width up to 300 mm & 600 mm for width from 400mm up to 1000 mm.
Other raduiz can be manufactured up on request (500-900-1200)

HORIZONTAL ELBOW 90°

width (w)	Height (H)	(X)	(Y)	Radius (R)
100	55 to 125	500	500	300
200		600	600	
300		700	700	
400		1100	1100	240
500		1200	1200	
600		1300	1300	
700		1400	1400	
800		1500	1500	
900		1600	1600	
1000		1700	1700	



SEGA.M Description
Example for order.
HD HE90 CL 300x100x2-R40x20x2 S=300
Hot dip galvanized after fabrication hortzontal Elbow 90° for coble ladder 300 mm width, 100 mm side height, 2 mm thickness rungs size 40x20 mm, 2 mm thickness, rung spacing 300 mm.

HORIZONTAL ELBOW 45°

width (w)	Height (H)	(X)	(Y)	Radius (R)
100	60 to 200	259	454	300
200		358	524	
300		458	595	
400		446	878	600
500		747	949	
600		846	1020	
700		946	1090	
800		1046	1160	
900		1146	1231	
1000		1246	1302	



SEGA.M Description
Example for order.
HD HE45 CL 400x100x2-R40x20x2 S=300
Hot dip galvanized after fabrication hortzontal Elbow 45° for coble ladder 400 mm width, 100 mm side height, 2 mm thickness rungs size 40x20 mm, 2 mm thickness, rung spacing 300 mm.

Cable tray Ladder

VERTICAL INSIDE ELBOW 90°

width (w)	width (H)	(X)	(Y)	Radius (R)
100 To 300	60	460	460	300
	100	500	500	
	150	550	550	
	175	575	575	
	200	747	949	
400 To 1000	60	460	460	600
	100	500	500	
	150	550	550	
	175	575	575	
	200	1246	1302	



SEGA.M Description

Example for order

SS316 VEI90 CL 400x100x2-R40x20x2 S=300

Stainless steel 316 Vertical Elbow inside 90° for cable ladder 400 mm width, 100 mm side height, 2 mm thickness rung size 40x20mm, 2mm thickness, rung spacing 300 mm.

VERTICAL OUTSIDE ELBOW 90°

width (w)	width (H)	(X)	(Y)	Radius (R)
100 To 300	60	460	460	300
	100	500	500	
	150	550	550	
	175	575	575	
	200	747	949	
400 To 1000	60	460	460	600
	100	500	500	
	150	550	550	
	175	575	575	
	200	1246	1302	



SEGA.M Description

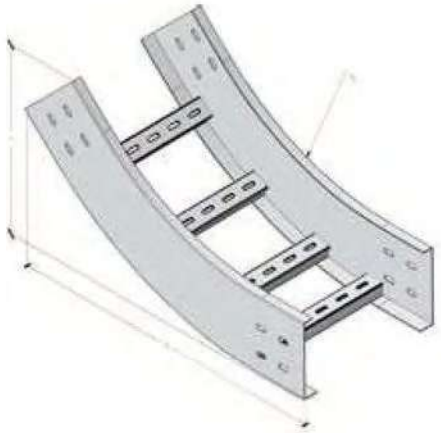
Example for order.

HD VEO90 CL 400x100x2-R40x20x2 S=300

Hot dip galvanized after fabrication Verlicol Elbow outside 90° for cable ladder 400 mm width, 100 mm side height, 2 mm thickness rung size 40x20mm, 2mm Thickness, rung spacing 300 mm.

VERTICAL INSIDE ELBOW 45°

width (w)	width (H)	(X)	(Y)	Radius (R)
100 To 300	60	425	221	300
	100	454	259	
	150	489	309	
	175	507	334	
	200	747	949	
400 To 1000	60	637	425	600
	100	666	454	
	150	701	489	
	175	718	422	
	200	1246	1302	



SEGA.M Description

Example for order.

PG VEI45 CL 200x60x2-R40x20x2 S=300

Pre galvanized Vertical Elbow inside 45° for cable ladder 200 mm Width, 60 mm side height, 2mm thickness. rung size 40x20mm,2mm thickness ,rung spacing 300.

VERTICAL OUTSIDE ELBOW 45°

width (w)	width (H)	(X)	(Y)	Radius (R)
100 To 300	60	425	221	300
	100	454	259	
	150	489	309	
	175	507	334	
	200	747	949	
400 To 1000	60	637	425	600
	100	666	454	
	150	701	489	
	175	718	422	
	200	1246	1302	



Emeco Description

Example for order.

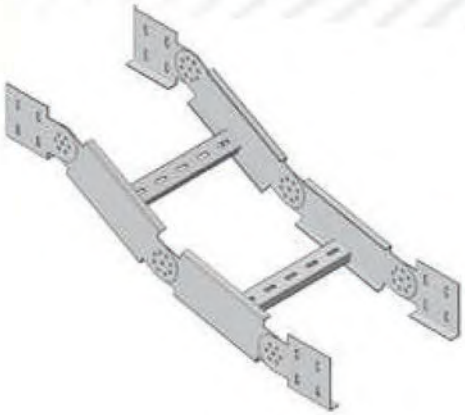
HD VEO45 CL 200x60x2-R40x20x2 S=300

Hot dip galvanized after fabrication Vertical Elbow outside 45° for coble ladder 200 mm width, 60 mm side height, 2mm thickness. Rung size 40x20mm, 2mm thickness, rung spacing 300.

Cable tray Ladder

VERTICAL JOINTED ELBOW INSIDE

width (w)	Height (H)	Radius (R)
100 To 300	60 To 200	300
300 To 1000		600



SEGA.M Description

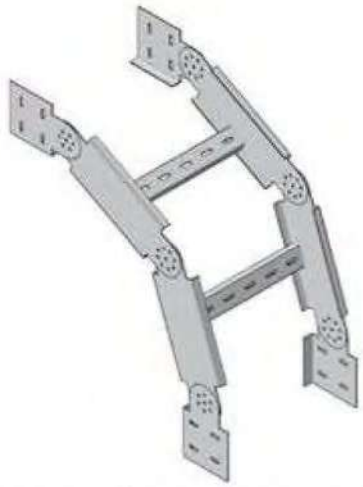
Ex.

HD VJIE CL 200x60x2-R40x20x2 S=300

Hot dip golvonized after fabrication Vefilcal Jointed inside Elbow for cable ladder 200 mm width, 60 mm side height, 2mm thickness. Rung size 40x20mm. 2mm thickness, rung spacing 300.

VERTICAL JOINTED ELBOW OUTSIDE

width (w)	Height (H)	Radius (R)
100 To 300	60 To 200	300
400 To 1000		600



SEGA.M Description

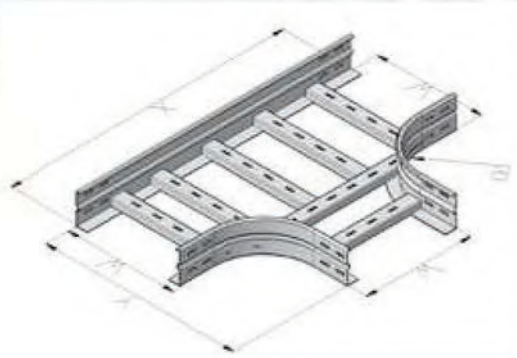
EX.

HD VJOE CL 200x60x2-R40x20x2 S=300

Hot dip galvanized after fabrication Vertical jointed outside Elbow for cable ladder 200 mm width, 60 mm side height, 2mm thickness. Rung size 40x20mm, 2mm thickness, rung spacing 300.

HORIZONTAL TEE

width (w)	width (H)	(X)	(Y)	Radius (R)
100/100/100	60 to 200	900	500	300
200/200/200		1000	600	
300/300/300		1100	700	
400/400/400		1800	1100	600
500/500/500		1900	1200	
600/600/600		2000	1300	
700/700/700		2100	1400	
800/800/800		2200	1500	
900/900/900		2300	1600	
1000/1000/1000		2400	1700	



SEGA.M Description

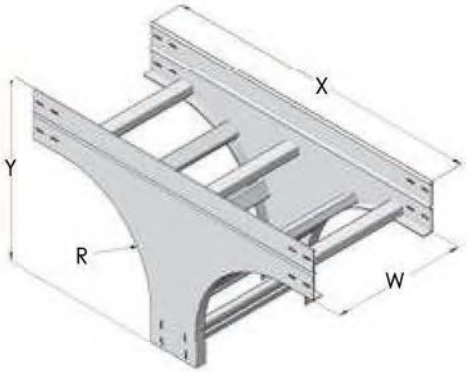
Ex.

HD HT CL 300x100x2-R40x20x2 S=300

Hot dip galvanized after tobrication Horizontal tee for cable ladder 300 mm width, 100 mm side height, 2mm thickness. Rung size 40x20mm, 2mm thickness, rung spacing 300.

VERTICAL TEE

width (w)	width (H)	(X)	(Y)	Radius (R)
100/100/100	60 to 200	900	500	300
200/200/200		1000	600	
300/300/300		1100	700	
400/400/400		1800	1100	600
500/500/500		1900	1200	
600/600/600		2000	1300	
700/700/700		2100	1400	
800/800/800		2200	1500	
900/900/900		2300	1600	
1000/1000/1000		2400	1700	



SEGA.M Description

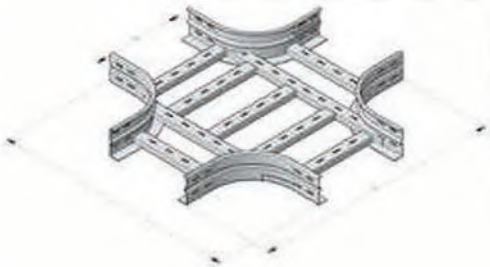
Ex.

HD VT CL 300x100x2-R40x20x2 S=300

Hot dip galvanized after tobrication Vertical tee for cable ladder 200 mm width, 100 mm side height, 2mm thickness. Rung size 40x20mm, 2mm thickness, rung spacing 300.

HORIZONTAL CROSS

width (w)	width (H)	(X)	(Y)	Radius (R)
100/100/100/100	60 to 200	900	500	300
200/200/200/200		1000	600	
300/300/300/300		1100	700	
400/400/400/400		1800	1100	600
500/500/500/500		1900	1200	
600/600/600/600		2000	1300	
700/700/700/700		2100	1400	
800/800/800/800		2200	1500	
900/900/900/900		2300	1600	
1000/1000/1000/1000		2400	1700	



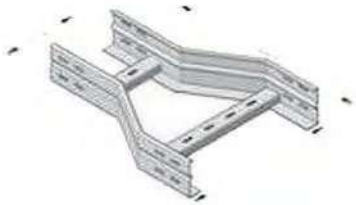
SEGA.M DescripHon

EX.

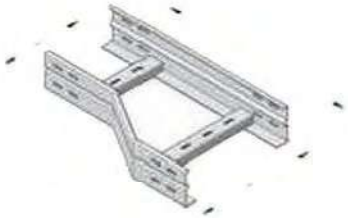
HD HC Cl 300xl00x2-R40x20x2 s=300

Hot dip galvanized after fabrication Horizontal Cross for cable ladder 300 mm width, 100 mm side height, 2mm thickness. Rung size 40x20mm, 2mm thickness, rung spacing 300.

HORIZONTAL CENTER REDUCER



HORIZONTAL Right REDUCER



HORIZONTAL Left REDUCER



SEGA.M Description

EX.

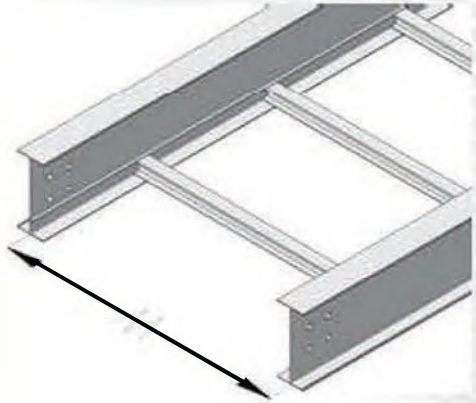
HD HLR CL (300/500)x100x2-R40x20x2 S=300

Hot dip galvanized offer fabrication Horizontal Left reducer for cable ladder 300/500 mm width, 100 mm side height 2mm thickness, Rung size 40x20mm. 2mm thickness, rung spacing 300.

Cable tray Ladder type (Heavy Duty)

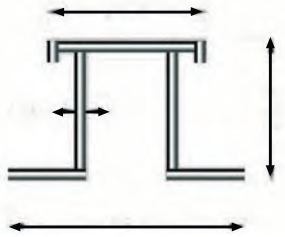
Straight Element - Aluminum





- Aluminum section made from aluminum alloy 6063.

width (W)	Height (H)	Thickness (Y)	Length (L)
150	155.5	2	2000 & 3000 & 6000
200			
300			
400			
500			
600			
700			
800			
900			
1000			
1200			



Rung

SEGA.M Descripffon

EX.

AL CL 300x155.5x6000- S=225

Aluminum cable tray ladder type, 300 mm width, 155.5 mm side height, 2mm thickness, 6000 mm length. rungs spacing 225 mm from center.

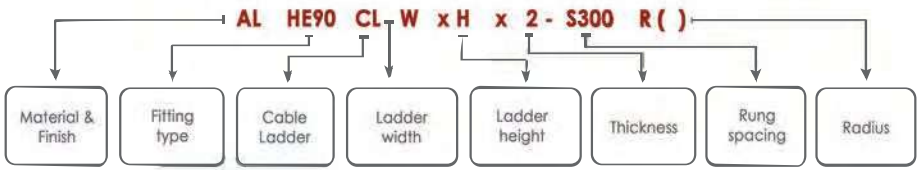
Cable tray Ladder type (Fitting)

Aluminum

All Cable trays Ladder type fitting has the same properties of its cable ladder in (size - thickness - finish).

SEGA.M Description

EX.



Fitting type means

HE90: Horizonlal Elbow 90°.

HE45: Horizontal Elbow 45°.

HT: Horizontal Tee.

HC: Horizontal Cross.

HRR: Horizontal Right Reducer.

HCR: Hofizontal Center Redvcer.

HLR: Horizontal Lett Reducer.

VEI90: Vertical Elbow 90 Inside.

VEO90: Vertical Elbow 90 Outside.

VEI45: Vertical Elbow 45 Inside.

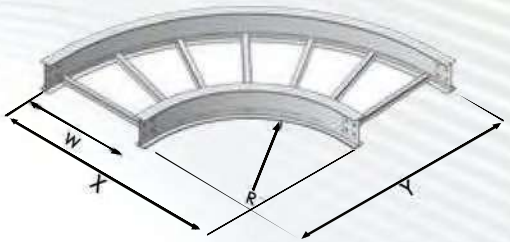
VEO45: Vertical Elbow 45 Outside.

Radius:

Standard valve of fitting radlvs Is 600 mm:

HORIZONTAL ELBOW 90°

width (w)	width (H)	(X)	(Y)	Radius (R)
100	155	500	500	600
200		600	600	
300		700	700	
400		110	1100	
500		1200	1200	
600		1300	1300	
700		1400	1400	
800		1500	1500	
900		1600	1600	
1200		1700	1700	



SEGA.M Description

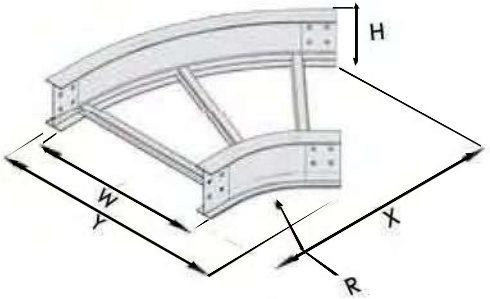
EX.

AL HE90 CL 300x155x2-S=300

Aluminvm horizontal Elbow 90° for cable ladder 300 mm width, 155 mm side height, 2 mm thickness rungs size 40x25 mm, 2 mm thickness, rung spacing 300mm.

HORIZONTAL ELBOW 45°

width (w)	width (H)	(X)	(Y)	Radius (R)
100 To 300	155	460	460	600
		500	500	
		550	550	
		575	575	
		747	949	
400 To 1200		460	460	
		500	500	
		550	550	
		575	575	
		1246	1302	



SEGA.M Description

EX.

AL HE45 CL 300x155x2-S=300

Aluminvm horizontal Elbow 45° tor cable ladder400 mm width, 155 mm side height, 2 mm thickness rungs size 40x25mm,2 mm thickness, rung spacing 300 mm.

VERTICAL INSIDE ELBOW 90°

width (w)	Height (H)	(X)	(Y)	Radius (R)
100 To 300	155	460	460	600
		500	500	
		550	550	
		575	575	
		747	949	
400 To 1200		460	460	
		500	500	
		550	550	
		575	575	
		1246	1302	



SEGA.M Description

Ex.

Al VEI90 CL 400x155x2-S=300

Aluminum Vertfcal Elbow Inside 90° for cable ladder 400 mm widlh, 155 mm side height, 2 mm thickness rung size 40x25mm, 2mm thickness, rung spacing 300 mm.

VERTICAL OUTSIDE ELBOW 90°

width (w)	width (H)	(X)	(Y)	Radius (R)
100 To 300	155	425	221	600
		454	259	
		489	309	
		507	334	
		747	949	
400 To 1200		637	425	
		666	454	
		701	489	
		718	422	
		1246	1302	



SEGA.M Description

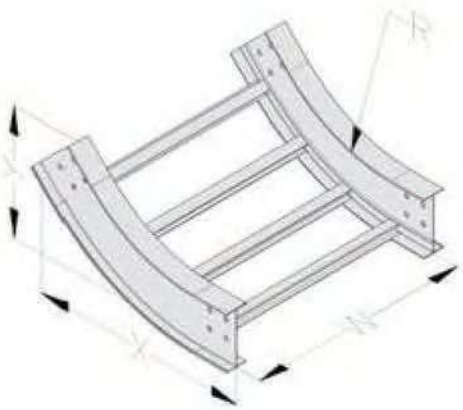
EX.

Al VEO90 CL 400x155x2-S=300

Aluminum Vertical Elbow outside 90° for cable ladder 400 mm width, 155 mm side heighl, 2 mm thickness rung size 40x25mm. 2mm thickness. rung spacing 300 mm.

VERTICAL INSIDE ELBOW 45°

width (w)	Height (H)	(X)	(Y)	Radius (R)
100 To 300	155	460	460	600
		500	500	
		550	550	
		575	575	
		747	949	
400 To 1200		460	460	
		555	500	
		550	550	
		575	575	
		1246	1302	



SEGA.M Description

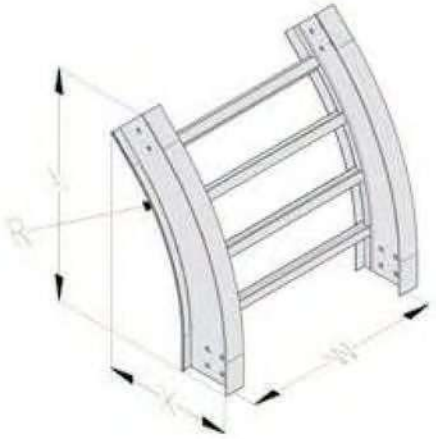
EX.

AL VEI45 CL 200X155X2-S=300

Aluminum Vertical Elbou inside 45° for cable ladder 200 mm width, 155 mm side height, 2mm thickness. rung siZe 40x25 mm,2 mm thickness, rung spacing 300 mm.

VERTICAL OUTSIDE ELBOW 45°

width (w)	width (H)	(X)	(Y)	Radius (R)
100 To 300	155	425	221	600
		454	259	
		489	309	
		507	334	
		747	949	
400 To 1200		637	425	
		666	454	
		701	489	
		718	422	
		1246	1302	



SEGA.M Description

EX.

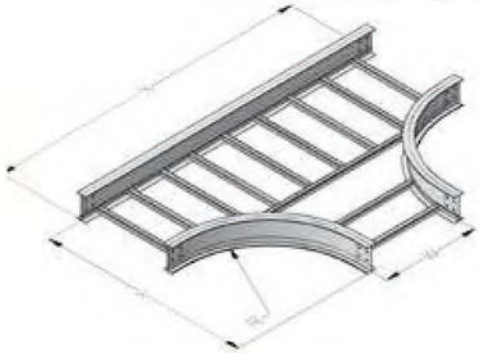
AL VEO45 CL 200x60x2-S=300

Aluminum Vertical Elbow outside 45° for cable ladder 200 mm width, 155 mm side height, 2mm thickness. Rung size 40x25mm, 2mm thickness, rung spacing 300.

Cable tray Ladder

HORIZONTAL TEE

width (w)	Height (H)	(X)	(Y)	Radius (R)
100/100/100	155	900	500	600
200/200/200		1000	600	
300/300/300		1100	700	
400/400/400		1800	1100	
500/500/500		1900	1200	
600/600/600		2000	1300	
700/700/700		2100	1400	
800/800/800		2200	1500	
900/900/900		2300	1600	
1000/1000/1000		2400	1700	



SEGA.M Description

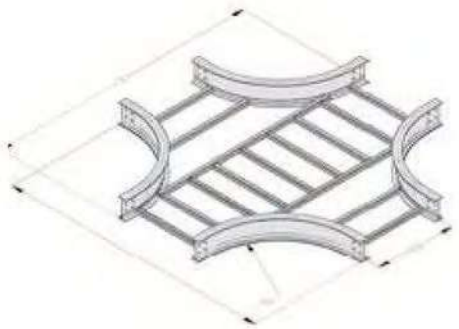
EX.

AL HT CL 300x155x2-S=300

Aluminum Horizontol Tee for cable ladder 300 mm width, 155 mm side height, 2mm thickness. Rung size 40x25mm, 2mm thickness, rung spacing 300.

HORIZONTAL CROSS

width (w)	width (H)	(X)	(Y)	Radius (R)
100/100/100/100	155	900	500	600
200/200/200/200		1000	600	
300/300/300/300		1100	700	
400/400/400/400		1800	1100	
500/500/500/500		1900	1200	
600/600/600/600		2000	1300	
700/700/700/700		2100	1400	
800/800/800/800		2200	1500	
900/900/900/900		2300	1600	
1000/1000/100/1000		2400	1700	



SEGA.M Description

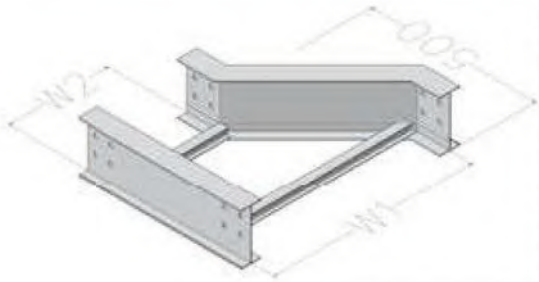
EX.

AL HC CL 300x155x2-S=300

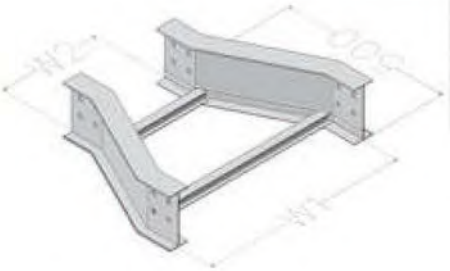
Aluminum Horizontol Cross for cable ladder 300 mm width, 155 mm side height, 2mm thickness. Rung size 40x25mm, 2mm thickness, rung spacing 300.

HORIZONTAL REDUCER

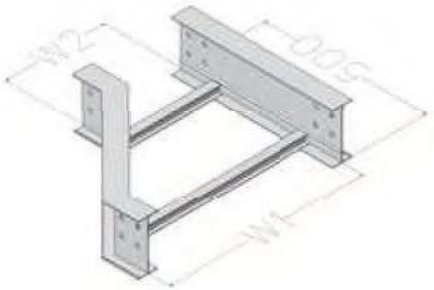
HORIZONTAL LEFT REDUCER



HORIZONTAL CENTER REDUCER



HORIZONTAL RIGHT REDUCER



SEGA.M Description

EX.

Al Hrr Cl 200/300x155x2-S=300

Aluminum Horizontal Right Reducer For Ladder '2f/J/300 mm Width , 155mm hieghl. 2mm thickness, Rung Spacing 300 mm

Cable Ladder covers

Steel - Stain less Steel - Aluminum

All properties of cover are the same properties of its ladder.
Standard length is 2000, 3000 mm.



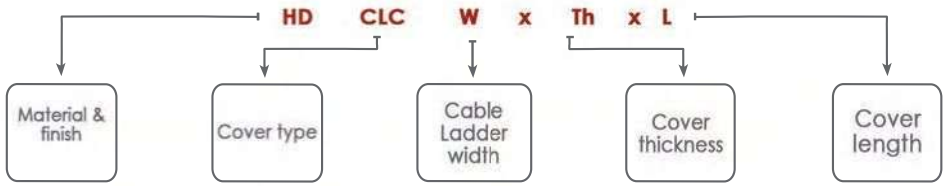
(CLSC) U cover
(Standard)



(CLVC)
Ventilated cover

SEGA.M Description

EX.



Example for order (HD CLC 200 x 1 x 3000)

Hot dip galvanized atter fabrication cover for cable Ladder 300 mm width, 1.5 mm thickness, 3000 mm length.

Available sizes of cover

SEGA.M Description	width (w)	Thickness (T)
CL cover50	50	1 To 2
CL cover100	100	
CL cover200	200	
CL cover300	300	
CL cover400	400	1.25 To 3
CL cover500	500	
CL cover600	600	
CL cover700	700	2
CL cover800	800	
CL cover900	900	
CL cover1000	1000	
CL cover1200	1200	



Cover clamp for fixing cover

Fitting Covers

Steel - Stain less Steel - Aluminum

All properties of cover are the same of its cover of straight element.



Horizontal elbow90° cover
(HE90CLC)



Horizontal elbow45° cover
(HE45CLC)



Vertical Inside elbow90° cover
(VIE90CLC)



Vertical inside elbow45° cover
(VIE45CLC)



Vertical outside elbow90° cover
(VOE90CLC)



Vertical outside elbow45° cover
(VOE45CLC)



Horizontal Tee cover
(HTCLC)



Vertical Tee cover
(VTCLC)



Horizontal Cross cover
IHCCLC)



Horizontal Left Reduce cover
(HLRCLC)



Horizontal Center Reduce cover
(HCRCLC)

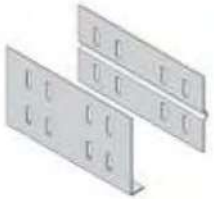


Horizontal Right Reduce cover
(HRRCLC)

Accessories

Steel - Stain less Steel - Aluminum

All properties of accessories are the same of its straight element



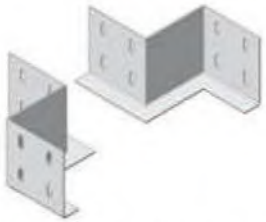
splice plate (internal & external)



Horizontal Adjustable joint



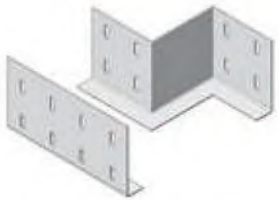
Vertical Adjustable joint



Center Reducing splice plate



Right Reducing splice plate



Right Reducing splice plate



Expansion splice plate



Blind end



Straight Element Separator



Horizontal Elbow Separator



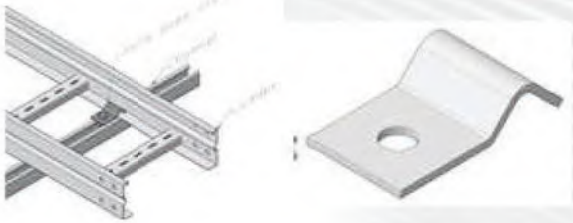
Vertical inside Separator



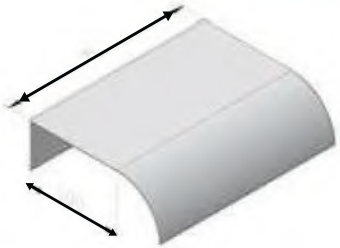
Vertical outside Separator

All properties of accssesorise are the same of its straight element

Hold down clamp



Drop Out



Drop Out

Bonding Jumper

Dimension	Length
copper wire 16 mm diameter	250







Cable tray Trough

Cable tray trough type

Steel - Stainless Steel

Light Duty





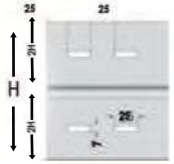
Heavy Duty



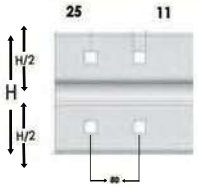


Ladder side & Bolts

Bolt size 6 mm x 20
8 mm x 25

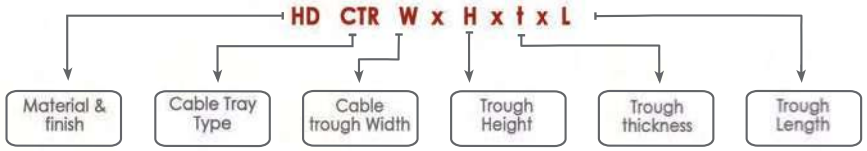


Bolt size 8 mm x 25
10 mm x 30



SEGA.M Description

Example of order



Material & Finish

Steel

HD Hot dip galvanized after fabrication according to ASTM A 123
PG Pre galvanized according to AST MA 653SS
EP Electro plated atter fabrication ASTM B 633
EC Epoxy cooled

Stainless Steel

SS 304 stainless steel 304
SS 304l stainless sleel 304L ASTM A240
SS 316 stainless steel 316
SS 316l stainless steel 316L

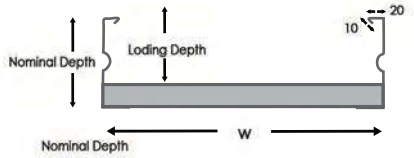
Cable tray type

Cable tray type CTR = cabte trough

Coble trough width W = (100 - 200 - 300 - 400 - 500 - 600- 700 - 800 - 900 - 1000 - 1200) mm

Cable tray height

Cable tray trough type height H =
(60 - 100 - 125 - 150 - 175- 200) mm
Loading Depth = Nominal Depth-C (Rüng height))



Side flange

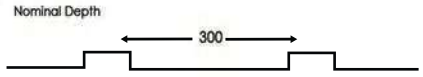
Side flange standard value is 20 x10 mm.

Trough thickness

Light duly trough thickness 1.5 mm.
Heavy duty trough thickness t= 2 mm(sides only)).

Trough length

Trough standard length L = 2000 & 3000 & 6000 mm.



Bottom size

Bottom thickness 1.5 mm.
Bottom welded on side
Steel welded with co2
Stainless steel welded with argon as inert gas

Cable tray trough type

Straight Element - Steel - Stainless Steel

Available Sizes

width (w)	height (H)	Thickness (T)	length (L)
100	60 & 100 & 125	1.5 & 2	2000 & 3000 & 6000
200			
300			
400			
600			
700			
800			
900			
1000			
1200			
200	150 & 175 & 200	1.5 & 2	2000 & 3000 & 6000
300			
400			
500			
600			
700			
800			
900			
1000			
1200			



SEGA.M Descripffon

EX.

HD CTR 300x150x2x6000

Hot dip galvanized after fabrication cable tray Trough type, 300 mm width, 150mm side height, 2mm thickness, 6000 mm length, battomthickness 1.5 mm rungs size 70x25mm spacing 300 mm from center

Cable tray trough type (Fitting)

Steel - Stainless steel

All Cable trays trough type fitting has the same properties af its cable trough In (size - thickness - finish).

SEGA.M Description

Ex.

HD HE90 CTR W x H x t x R ( )

Material & finish | Fitting type | Cable trough | Trough width | Trough height | thickness | Radius

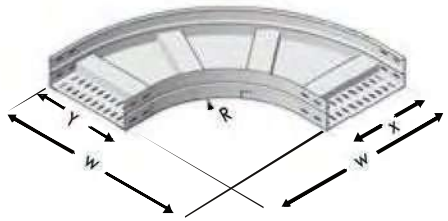
HE90: Horizontal 8bow 90°.	**VEI90:** Vertical Elbow 90 Inside.
HE45: Honzontal Elbow 45°.	**VEO90:** Verlical Elbow 90 Outside.
HT: Horizontal Tee.	**VEI45:** Vertical Elbow 45 Inside.
HC: Horizontal Cross.	**VEO45:** Vertical Elbow 45 Outside.
HRR: Horizontal Right Reducer.	**VT:** Vertical Tee.
HCR: Horizontal Center Reducer.	
HLR: Horizontal Left Reducer.	

Radius:

Standard value of fiftlng radius is:
300 mm for width up to 300 mm & 600 mm for width from 400mm up to1000 mm.
other radius can be mannfactured up on request (500-900- 1200).

HORIZONTAL ELBOW - 90°

width (w)	Height (H)	(X)	(Y)	Radius (R)
100	60 to 200	500	500	300
200		600	600	
300		700	700	
400		1100	1100	600
500		1200	1200	
600		1300	1300	
700		1400	1400	
800		1500	1500	
900		1600	1600	
1000		1700	1700	



SEGA.M Description

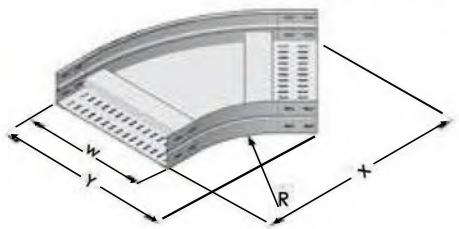
Example for order.

HD HE90 CTR 300x100x2

Hot dip galvanized after fabrication horizontal 8bow 90° for cable trough 300 mm width, 100 mm side height, 2 mm thickness bottom thickness 1.5 mm rungs size 70X25 mm, rung spacing 300 mm.

HORIZONTAL ELBOW - 45°

width (w)	Height (H)	(X)	(Y)	Radius (R)
100	60 to 200	259	454	300
200		358	524	
300		458	595	
400		446	878	600
500		747	949	
600		846	1020	
700		946	1090	
800		1046	1160	
900		1146	1231	
1000		1246	1302	



SEGA.M Description

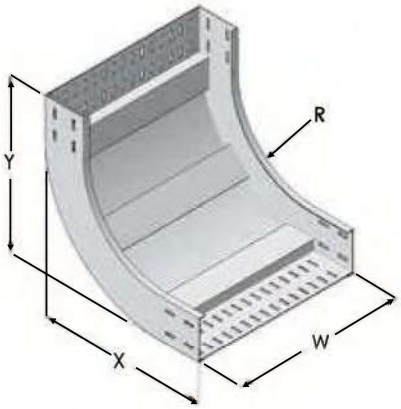
Example for order.

HD HE45 CTR 400x100x2

Hot dip galvanized after fabrication horfzantal Elbow 45° for cable trough 400 mm width, 100 mm side height, 2 mm thickness bottom thickness 1.5 mm rungs size 70X25 mm, rung spacing 300 mm.

VERTICAL INSIDE ELBOW 90°

width (w)	Height (H)	(X)	(Y)	Radius (R)
100 To 300	60	460	460	300
	100	500	500	
	150	550	550	
	175	575	575	
	200	747	949	
400 To 1000	60	460	460	600
	100	500	500	
	150	550	550	
	175	575	575	
	200	1246	1302	



SEGA.M DescripHon

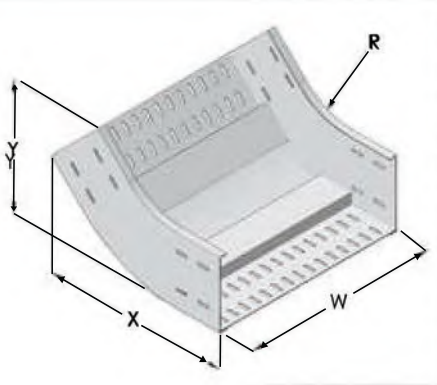
Example for order

SS316 VEt90 CL 400x100x2

Stainless steel 316 Vertical Elbow fnside 900 for cable trough 400 mm width, 100 mm side height, 2 mm thickness bottom thickness rung size 70x25mm, rang spacing 300 mm.

VERTICAL INSIDE ELBOW - 45°

width (w)	Height (H)	(X)	(Y)	Radius (R)
100 To 300	60	425	221	300
	100	454	259	
	150	489	309	
	175	507	334	
	200	747	949	
400 To 1000	60	637	425	600
	100	666	454	
	150	701	489	
	175	718	422	
	200	1246	1302	



SEGA.M DescripHon

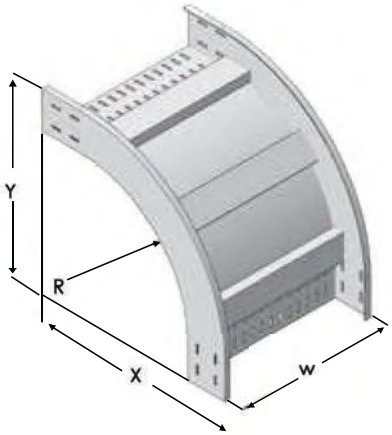
EXample for order.

PG VEI45 CTR 200x60x2

Pre galvanized Vertical Elbow inside 45° for cable trough 200 mm Width, 60 mm side height, 2mm thickness. bottom thickness 1.5 mm rung size 70x25mm,rung spacing 300.

VERTICAL OUTSIDE ELBOW - 90°

width (w)	Height (H)	(X)	(Y)	Radius (R)
100 To 300	60	460	460	300
	100	500	500	
	150	550	550	
	175	575	575	
	200	747	747	
400 To 1000	60	460	460	600
	100	500	500	
	150	550	550	
	175	575	575	
	200	1246	1246	



SEGA.M DescripHon

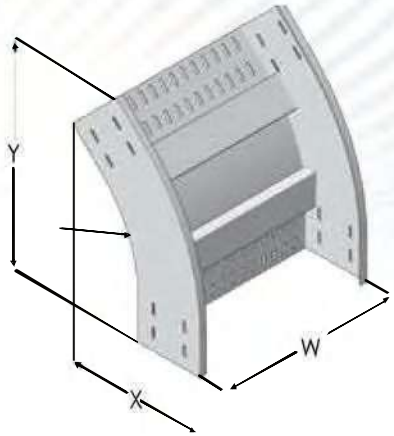
EXample for order.

HD VEO90 CTR 400x100x2

Hot dip galvanized after fabrication Vertical Elbow outside 90° for cable trough 400 mm width, 100 mm side height, 2 mm thickness bottom thickness 1.5 mm rung size 70x25mm,rung spacing 300 mm.

VERTICAL OUTSIDE ELBOW - 45°

width (w)	Height (H)	(X)	(Y)	Radius (R)
100 to 300	60	425	221	300
	100	454	259	
	150	489	309	
	175	507	334	
	200	747	949	
400 to 1000	60	637	425	600
	100	666	454	
	150	701	489	
	175	718	422	
	200	1246	1302	



SEGA.M Descripffon

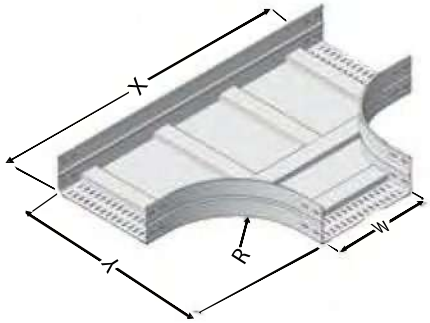
Example for order.

HD VEO45 CTR 200x60x2

Hot dip galvanized after fabrication Vertical Elbow outside 45° for cable trough 200 mm width, 60 mm side height. 2mm thickness.bottom thickness 1.5 mm Rung size 70x25mm. rung spqcing 300.

HORIZONTAL TEE

width (w)	width (H)	(X)	(Y)	Radius (R)
100/100/100	60 to 200	900	500	300
200/200/200		1000	600	
300/300/300		1100	700	
400/400/400		1800	1100	600
500/500/500		1900	1200	
600/600/600		2000	1300	
700/700/700		2100	1400	
800/800/800		2200	1500	
900/900/900		2300	1600	
1000/1000/1000		2400	1700	



SEGA.M Descripfion

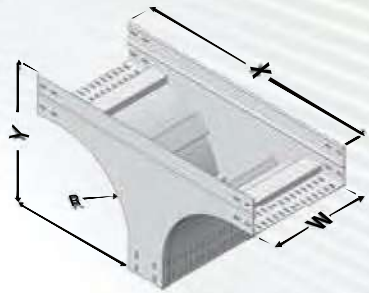
EX.

HD HT CTR 300x100x2

Hot dip galvanized after fabrication Horizontal Tee for cable trough 300 mm width, 100 mm side height. 2mm thickness. Bottom thickness 1.5 mm Rung size 70x25mm,rung spacing 300.

VERTICAL TEE

width (w)	Height (H)	(X)	(Y)	Radius (R)
100 to 300	60	425	221	300
	100	454	259	
	150	489	309	
	175	507	334	
	200	747	949	
400 to 1000	60	637	425	600
	100	666	454	
	150	701	489	
	175	718	422	
	200	1246	1302	



SEGA.M Description

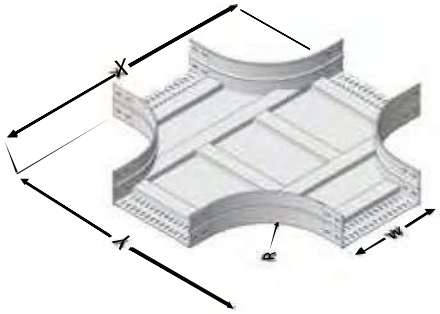
EX.

HD VT CTR 300x100x2

Hot dip galvanized after fabrlcolion Vertical tee for cable trough 200 mm width, 100 mm side height, 2mm thickness. Bottom thickness t .5 mm Rung size 70x25mm.rung spocing 300

HORIZONTAL CROSS

width (w)	width (H)	(X)	(Y)	Radius (R)
100/100/100/100	60 to 200	900	500	300
200/200/200/200		1000	600	
300/300/300/300		1100	700	
400/400/400/400		1800	1100	600
500/500/500/500		1900	1200	
600/600/600/600		2000	1300	
700/700/700/700		2100	1400	
800/800/800/800		2200	1500	
900/900/900/900		2300	1600	
1000/1000/1000/1000		2400	1700	



SEGA.M Description

EX.

HD HC CTR 300x100x2

Hot dip galvanized after fabrication Hortzontol Cross for coble trough 300 mm width, 100 mm side height 2mm thickness. Bollom thiclmess I .5 mm Rung size 70x25mm, rung spacing 300.

HORIZONTAL REDUCER



LEFT HAND REDUCER | CENTER REDUCER | RIGHT HAND REDUCER

REDUCER LENGTH L = 500 mm

Cable Trough covers

Steel - Stain less Steel

All properties of cover are the same properties of ils trough.
Standard length is 2000, 3000 mm.



(CTRC) u cover
(Standard)



(CTRVC)
Ventilated cover

SEGA.M Description

Ex.

HD CTRC W x th x L

- Material & finish
- Cover type
- Cable trough width
- Cover thickness
- Cover length

Example for order (HD CTRC 200 x 1 x 3000)

Hot dip galvanized after fabrication cover for cable trough 300 mm width, 1.5 mm thickness, 3000 mm length.

Cover clamp for fixing cover

Available sizes of cover

Thickness (T)	width (w)	SEGA.M Description
1 To 2	50	CL cover50
	100	CL cover100
	200	CL cover200
	300	CL cover300
1.25 To 3	400	CL cover400
	500	CL cover500
	600	CL cover600
2	700	CL cover700
	800	CL cover800
	900	CL cover900
	1000	CL cover1000
	1200	CL cover1200



Fitting Covers

Steel - Stain less Steel

All properties of cover are the same of its cover of straight element.



Horizontal elbow90° cover
(HE90CTRC)



Horizontal elbow45° cover
(HE45CTRC)



Vertical inside elbow90° cover
(VIE90CTRC)



Vertical inside elbow45° cover
(VIE45CTRC)



Vertical outside elbow90° cover
(VOE90CTRC)



Vertical outside elbow45° cover
(VOE45CTRC)



Horizontal Tee cover
(HTCTRC)



vertical Tee cover
(VTCTRC)



Horizontal Cross cover
(HCCTRC)



Horizontal Left Reduce cover
(HLRCTRC)



Horizontal Center Reduce cover
(HCRCTRC)

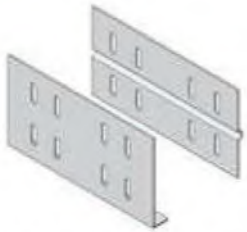


Horizontal Right Reduce cover
(HRRCTRC)

Accessories

Steel - Stain less Steel

All properties of accessories are the same of its straight element



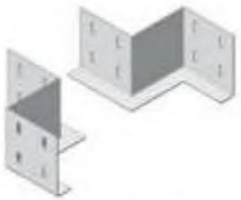
Splice plate (internal & External)



Horizontal Adjustable joint



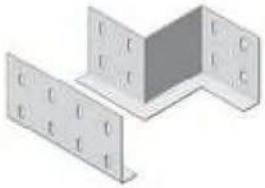
Vertical Adjustable joint



center Reducing splice plate



Right Reducing splice plate



Right Reducing splice plate



Expansion splice plate



Blind end



Straight element Separator



Horizontal Elbow Separator



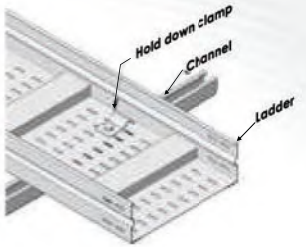
Vertical inside Separator



Vertical outside Separator

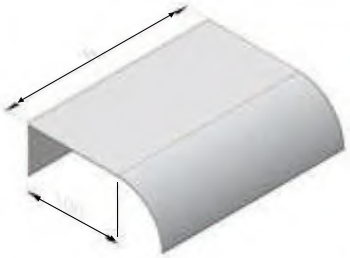
All properties of accessories are the same of its straight elements

Hold down clamp





Drop Out



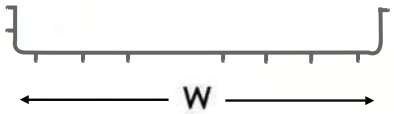
Bonding Jumper

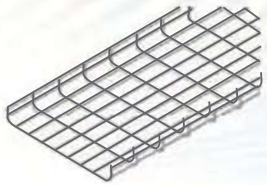
Dimension	Length
copper wire 16 mm diameter	250



Wire mesh Cable tray (Basket type)

Straight Element





SEGA.M Description
EX.
EP CB W x H x 5 x L-100x50

- Material & finish
- Cable Tray Type
- Cable Ladder width
- Basket Height
- wire diameter
- Basket Length
- Mesh size

Material

Steel
Basket Cable Tray Systems are produced from high strength steel Wires (ASTM A510).

Stainless Steel
SS 304 stainless steel 304
SS 304L stainless steel 304L ASTM A240
SS 306 stainless steel 316
SS 306L stainless steel 316L

Finish

Steel
HD Hot dip galvanized after fabrication according to ASTM A 123
EP Electro plated after fabrication ASTM b633
EC Epoxy coated

Stainless Steel
Cleaning

Cable tray type
Cable tray type CB = cable basket

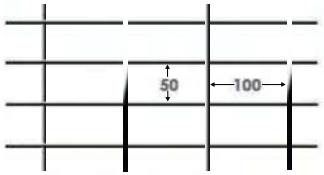
Cable tray width
Cable tray Basket type width w = (100 - 200 - 300 - 400 - 500 - 600) mm

Cable tray height
Cable basket height H = (50 - 100 - 150) mm.

Wire diameter
Wire diameter (4 - 5 - 6) mm.

Basket length
Basket standard length L = 2000.3000 mm.

Mesh size
Standerd mesh size = 100 x 50 mm.

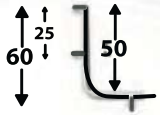


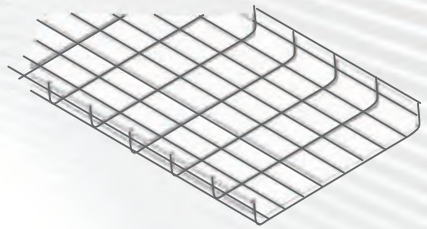
Welding
A fully automated welding process produces continuous wire mesh with Press welding machine

Cable tray Basket

Straight Element - Steel - Stainless Steel

Side 50 mm





Width (W)	Height (H)	Wire diameter	length (L)
50	50	4 & 5 & 6	2000 & 3000
100			
200			
300			
400			
500			
600			



SEGA.M Description

EX.

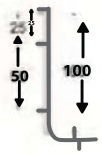
EP CB 300x50x5x2000 -100x50

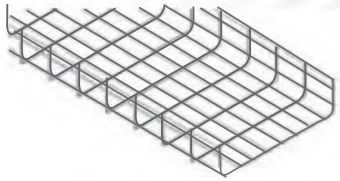
Electra plated cable troy basket type. 300 mm wtdlh, 50mm side height. wire diameter 5mm
Mesh size 100x50 mm.

Cable tray Basket

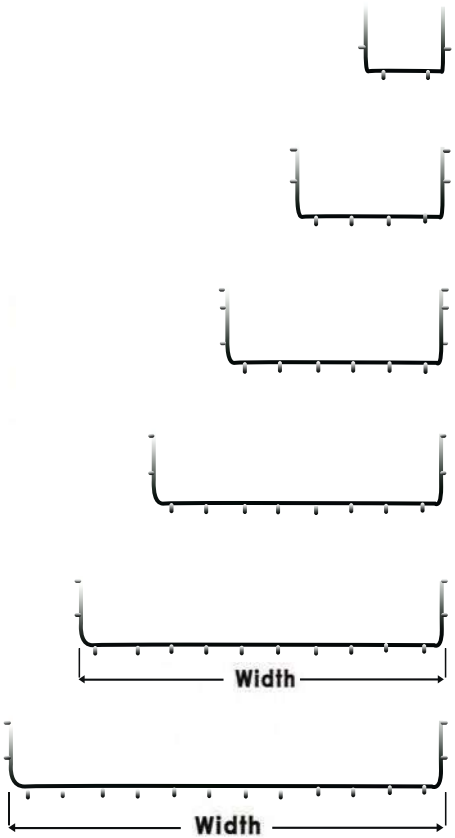
Straight Element - Steel - Stainless Steel

Side 100mm





Width (W)	Height (H)	Wire diameter	length (L)
100	100	4 & 5 & 6	2000 & 3000
200			
300			
300			
400			
400			
500			
600			



SEGA.M Description

EX.

EP CB 400x100x5x3000 -100x50.

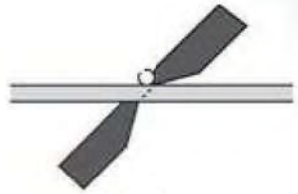
Electro plated cable tray basket type, 400 mm width, 100mm side height, wire diameter 5mm
Mesh size 100x50 mm

Cable tray Basket type (Fitting)

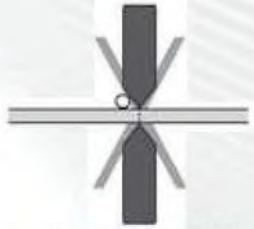
Steel - Stainless steel

Wire Basket System is designed to accommodate Jobsite changes, Straight secilons can be modified to produce bends,tees, crosses or reducers,Can be made from any tray width and depth with any available finish





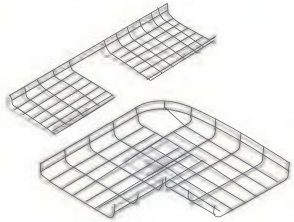
Offset Cut



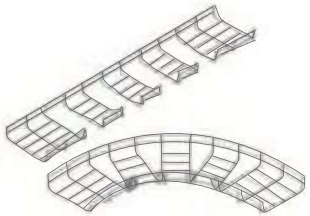
Do not use center cut blades.

For cutting, bending and assembly. Cut wires wilh Angular Bott Cutter, bend lo preferred radius and assemble

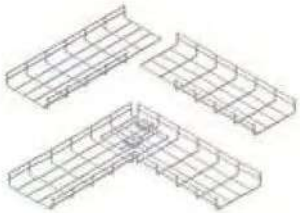
HORIZONTAL ELBOW



Short Radius

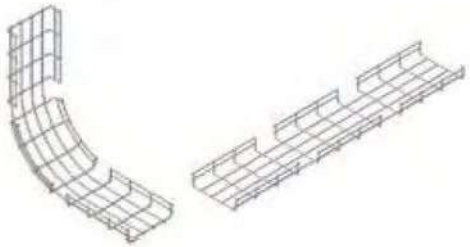


Long Radius

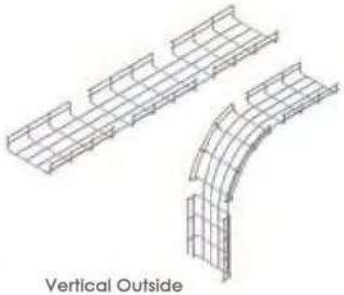


Straight sections

Vertical Elbow



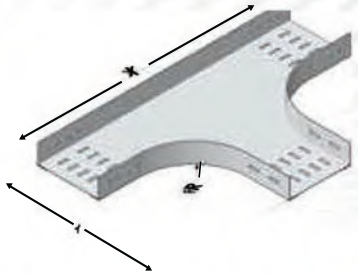
Vertical inside



Vertical Outside

Horizontal Tee

width (w)	Height (H)	(X)	(Y)	Radius (R)
50	35	290	290	140
100	50	440	440	
150	50	490	490	



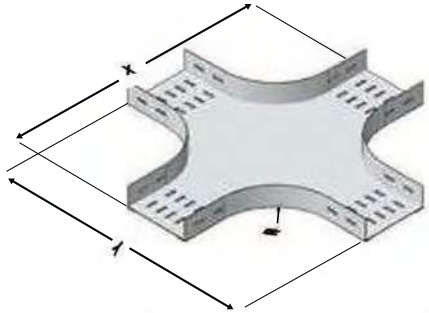
SEGA.M Description

HD HT Ch150 x 50 x1.5

Hot dip golvonized after fabticatian Horizontal tee for channel 150 mm width, 50mm side height, 1.5 mm thickness.

Horizontal Cross

width (w)	Height (H)	(X)	(Y)	Radius (R)
50	35	290	290	140
100	50	440	440	
150	50	490	490	



SEGA.M Description

HD HC Ch150 x 50 x1.5

Hot dip galvanized after fabrication Horizontal cross for chonnel 150 mm width, 50mm side height, 1.5 mm thickness.

Cable channel covers

Straight & Fitting Covers

All properties of cover are the same of its cover of straight element



Horizontal elbow45° cover (HE45C)



Horizontal elbow90° cover (HE90C)



Straight cover



Vertical outside elbow 90° Cover (VEO90C)



Vertical inside elbow 45° Cover (VEI45C)



Vertical inside elbow 90° Cover (VE190C)



Horizontal Cross cover (HCC)



Horizontal tee cover (HTC)



Vertical outside elbow 45° Cover (VEO45C)

Accessories



Splice plate

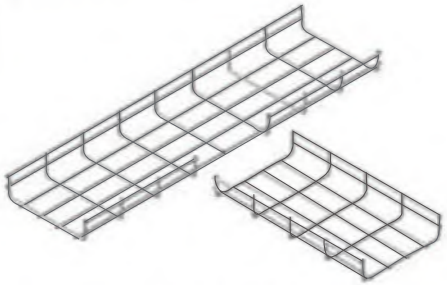


Horizontal Adjustable joint

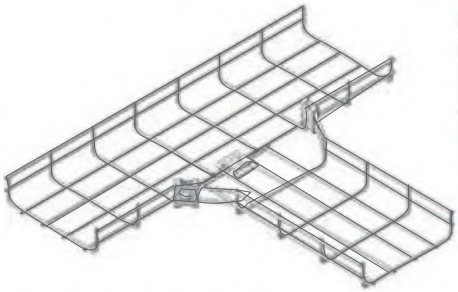


Vertical Adjustable joint

Horizontal Tee

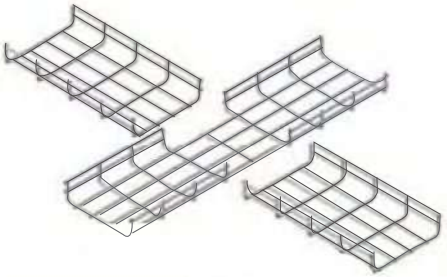


Straight sections

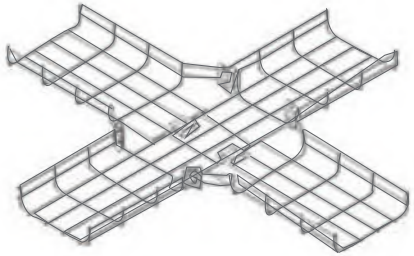


Short Radius

Horizontal Cross

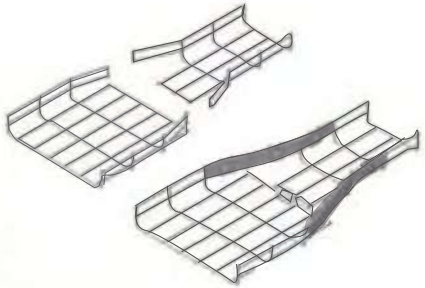


Straight sections

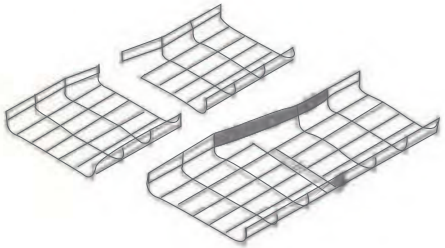


Short Radius

Horizontal Reducer

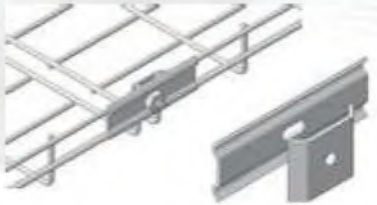


Horizontal Center Reducer



Horizontal Right Reducer

Accessories



Splice plate & clamp assembly (side 50)



Splice plate & clamp assembly (side 100)



Clamp assembly



Hold down clamp



Blind End



Straight element Separator



Horizontal Elbow Separator



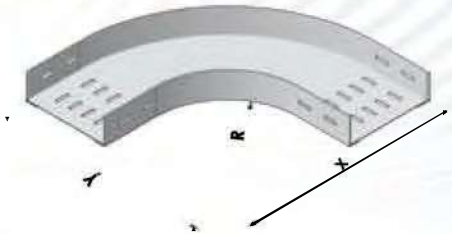
Straight element Vertical



Vertical inside Separator

HORIZONTAL ELBOW 90°

width (w)	Height (H)	(X)	(Y)	Radius (R)
50	35	290	290	140
100	50	440	440	
150	50	490	490	



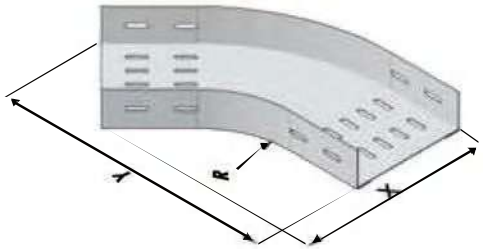
SEGA.M Description

PG VE90 Ch150 x 50 x1.5

Pre galvanized before fabrication horizonlal Elbow 90° for channel 150 mm width, 50mm side height, 1.5 mm thickness.

HORIZONTAL ELBOW 45°

width (w)	Height (H)	(X)	(Y)	Radius (R)
50	35	290	290	140
100	50	440	440	
150	50	490	490	



SEGA.M Description

PG HE45 Ch150 x 50 x1.5

Pre galvanized before fabrication horizonlal Elbow 45° for channel 150 mm width, 50mm side height, 1.5 mm thickness.

VERTICAL INSIDE ELBOW 90°

width (w)	Height (H)	(X)	(Y)	Radius (R)
50	35	290	290	140
100	50	440	440	
150	50	490	490	



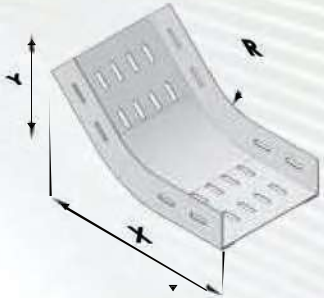
SEGA.M Description

PG VEI90 Ch150 x 50 x1.5

Hot dip galvanized after fabrication vertical inside ElboW 90° for channel 150 mm width, 50mm side height, 1.5 mm thickness.

VERTICAL INSIDE ELBOW 90°

width (w)	Height (H)	(X)	(Y)	Radius (R)
50	35	290	290	140
100	50	440	440	
150	50	490	490	



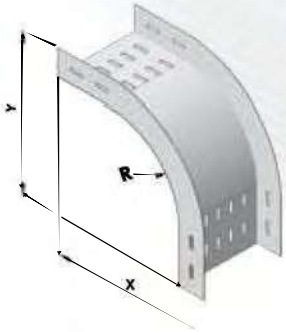
SEGA.M Description

PG VEI45 Ch150 x 50 x1.5

Hot dip galvanized after fabrication vertical inside Elbow 45° for channel 150 mm width, 50mm side height, 1.5 mm thickness.

VERTICAL OUTSIDE ELBOW 90°

width (w)	Height (H)	(X)	(Y)	Radius (R)
50	35	290	290	140
100	50	440	440	
150	50	490	490	



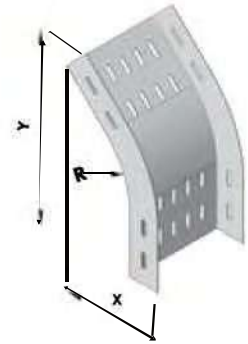
SEGA.M Description

HD VEO 90 Ch150 x 50 x1.5

Hot dip galvanized after fabrication vertical outside Elbow 90° far channel 150 mm Width, 50mm side height, 1.5 mm thickness.

VERTICAL OUTSIDE ELBOW 45°

width (w)	Height (H)	(X)	(Y)	Radius (R)
50	35	290	290	140
100	50	440	440	
150	50	490	490	



SEGA.M Description

HD VEO 45 Ch150 x 50 x1.5

Hot dip galvanized after fabrication vertical outside Elbow 45° far channel 150 mm Width, 50mm side height, 1.5 mm thickness.

SEGA. M Accreditation

As result of our effort to produce high quality products we have the pleasure to announce that we have obtained these Certificates:

- EXPO 2021 DUBAI SI EP PARTNER AWARDS 2021
- LV,SIVACON S8, Low Voltage Switchgear.
- SIEMENS,AG Certificates for medium voltage SIMOPRIME 7.2 -17.5 kV
- SIEMENS,AG Certificates for medium voltage SIMOPRIME A4 (24kV)
- ISO 9001, 14001, 18001 Certificates by Tuv Nord
- Kema Certificates for Plastic Junction Box
- Products certificates
- Extra High Voltage Research Center Test Certificate for Load Center
- TUV Certificates for load Counter MCCB
- EGAC Certificates
- Import Certificate & Export Certificate
- EOS Certificates for Residention Plugs and Socket
- Egypian Electricity holding company certificete
- Certificate of meeting the percentage of the Egyptian component, Ministry of Industry and Trade
- EIOT
- Proudly certified made in Egypt.



SEGA. M Accreditation

Certificate of Appreciation

Electrical Products Partner Awards 2021

SEGA-M

In recognition of your commitment to excellence as an outstanding partner for Smart Infrastructure Electrical Products Middle East.

We appreciate your contribution and commitment that enables us to reach new heights together. Your success is our success!

We wish you all the best in achieving many more milestones

Dubai, November 29, 2021

Andreas Matthé
Global CEO
SI EP

Florian Gauglitz
Senior Vice President
RC-AE SI EP Middle East

SIEMENS

EXPO 2021 DUBAI SI EP PARTNER AWARDS 2021



SI EP PARTNER AWARDS 2021

Eng. Maher Sadek Sega M chairman receiving Business Expansion And Growth Award from Andreas **Mr. Matthe Global** CEO And Mr.Florian Gauglitz Senior Vice President.



MTL
Mechanical Testing Laboratory
Metallurgical Dept. – Building No. 32
Faculty of Engineering – Cairo University

EGAC Accredited
Testing
CAB #
413004B(3)

معمل الاختبارات الميكانيكية
قسم الفلزات - مبنى رقم 32
كلية الهندسة – جامعة القاهرة

Test Report

Test Request #	993	Specimen(s) ID	9-24/691

The MTL adopts the management systems that fulfills the requirements of the international standard ISO/IEC 17025:2017
Accreditation Status Tensile, Hardness, impact, chemical tests are accredited in accordance with ISO 17025:2017

Date of request:	12/1/2025	**Number of pages:**	4
Test(s) Required:	Tensile+ Hardness + Corrosion+ Corrosion		
Test method (Mechanical)	Tension(ASTM E8/24) / Hardness (ASTM E92/23)		
Test item description:	Cable Tray		
Owner	سيجا ام للادوات الكهربائية		
Date of Performing Test	20/1/2025	**Test Report Date**	20/1/2025
Temperature, °C	23	**Humidity, %**	37

- **Specimen details and conditions (shown above) are supplied by the customer; hence the lab bears no responsibility regarding these details.**
- **The Un-machined specimen was sent by the customer.**

1-Tensile Test: Test Machine: SHIMADZU / UH-1000KNX Universal Testing Machine.
Serial No.: 124105000018

Test Specimen	**9-24/691**
thickness, mm	**1.8**
Yield stress, MPa	**206**
Ultimate Tensile stress, MPa	**243**
Elongation, %	**10**

Test conducted by: **Signature:**

- The test results represent a sample provided – by the customer - to the Lab only and do not represent the quantities of production or any other quantities belongs to the customer.
- Reports issued by the Lab are confidential and belong to the requesting party alone and cannot be given to any other part.
- The lab responsibility of delivering the rest of sample(s) to the customer expires after 15 days after the test report issuance date or due to the depletion of the sample(s) during test.

Technical Advisor	**Lab. Manager / Lab. Supervisor**
	Prof. Dr: Mahmoud Tash
Signature:	**Signature:**

MTL
Mechanical Testing Laboratory
Metallurgical Dept. – Building No. 32
Faculty of Engineering – Cairo University

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Accredited
Testing
CAB #
413004B(3)

معمل الاختبارات الميكانيكية
قسم الفلزات - مبنى رقم 32
كلية الهندسة – جامعة القاهرة

2. Hardness Test:

Test Machine: Zwick/Roell ZHU250 Hardness Testing Machine.

Specimen code	Hardness, HV10			Average, HV10
	1	2	3	
9-24/691	116	119	120	118

Test conducted by: W.G **Signature:**

- The results reported here are the responsibility of the lab, and represent the true results of the specimens provided by the customer. They do not represent any production quantities belonging to the customer.
- Reports issued by the Lab are confidential and belong to the requesting party alone and cannot be given to any other party.

Technical Advisor	Lab. Manager / Lab. Supervisor
Prof. Dr: Mahmoud Tash	Prof. Dr: Mahmoud Tash
Signature:	Signature:

MTL
Mechanical Testing Laboratory
Metallurgical Dept. – Building No. 32
Faculty of Engineering – Cairo University

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معمل الاختبارات الميكانيكية
قسم الفلزات - مبنى رقم 32
كلية الهندسة – جامعة القاهرة

3- Corrosion Test:

Test Specimen	9-24/691
(Corrosion Rate)	1.1 mm/y

Test conducted by: **Signature:**

- The test results represent a sample provided – by the customer - to the Lab only and do not represent the quantities of production or any other quantities belongs to the customer.
- Reports issued by the Lab are confidential and belong to the requesting party alone and cannot be given to any other part.
- The lab responsibility of delivering the rest of sample(s) to the customer expires after 15 days after the test report issuance date or due to the depletion of the sample(s) during test.

Technical Advisor	Lab. Manager / Lab. Supervisor
	Prof. Dr: Mahmoud Tash
Signature:	Signature:

MTL
Mechanical Testing Laboratory
Metallurgical Dept. – Building No. 32
Faculty of Engineering – Cairo University

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Testing
CAB #
413004B(3)

معمل الاختبارات الميكانيكية
قسم الفلزات - مبنى رقم 32
كلية الهندسة – جامعة القاهرة

4. Galvanization by Weight Loss :

Specimens ID	Tested Area, cm^2	Initial weight, gram	Final weight, gram	Weight loss ,gram	Galvanization weight g/m^2	Galvanization thickness µm
9-24/691	31	29.67	25.68	3.99	1288	181

Test conducted by: **Signature:**

- The test results represent a sample provided – by the customer - to the Lab only and do not represent the quantities of production or any other quantities belongs to the customer.
- Reports issued by the Lab are confidential and belong to the requesting party alone and cannot be given to any other part.
- The lab responsibility of delivering the rest of sample(s) to the customer expires after 15 days after the test report issuance date or due to the depletion of the sample(s) during test.

Technical Advisor	Lab. Manager / Lab. Supervisor
	Prof. Dr/ Mahmoud Tash
Signature:	Signature:



Technology partner
SIMOPRIME

SIEMENS

Certificate

SIMOPRIME Technology Partner

Siemens AG
Smart Infrastructure
Electrification & Automation

SEGA M Company for Electrical Products
A3 Industrial Area, 10th of Ramadan City, 0000 Sharkia, Egypt

is a certified SIMOPRIME Technology Partner.

In the context of the technical cooperation and license agreement the company is qualified and authorized to manufacture type-tested medium voltage switchgear based on type

SIMOPRIME World (7.2 - 17.5 kV) and SIMOPRIME A4 (24kV)

The certificate is valid until 01.04.2025

Erlangen, 01.08.2023

stephan may
Electronically signed by: stephan may Date: Aug 8, 2023 09:58 GMT+2

Stephan May
CEO SI EA

Electronically signed by: M.Bauersachs Date: Aug 8, 2023 11:28 GMT+2

Marcus Bauersachs
Head of SI EA Finance

SIEMENS

Sega-M FY24-SIBOARD Certificate



SIBOARD Certificate

SIEMENS SIBOARD Licensed Partner

We hereby certify that,

Company: **Sega M for Electrical Products**

Location: 10th of Ramadan City, Zone A-3, Egypt

Is an Authorized SIEMENS Partner who is eligible to manufacture and sell design verified Distribution Boards Type "SIBAORD" up to 800A according to IEC 61439-1/2/3 using SIEMENS Components.

Certificate Validity: Until 30.09.2025

SIEMENS Industrial LLC
Bureau 175, Al-Horreya Axis - 90th South Road
P.O. Box 245/11835, Cairo, Egypt
Fax: +20 22614 1099
ep.support.eg@siemens.com

Siemens Industrial LLC
Limited Liability Co. Issued Capital : EGP 200,000,000
Commercial Register No. 147190
Tax Card No. 378-001-285 Large Taxpayers Center

SIEMENS Licensed Partner

With Siemens SIBOARD Technology & License

Abdullah El-Bagoury
Head of Sales & Channel Partners Director
Electrical Products Business Unit

Mohamed Badran
Senior Vice President
Head of Electrical Products Business Unit

SIEMENS

LV,SIVACON S8



Certificate

SIVACON Technology Partner

Siemens Aktiengesellschaft, hereby certifies that the company

SEGA M Company for Electrical Products

A3 Industrial Area, 10th of Ramadan City, 0000 Sharkia, Egypt

is a SIVACON Technology Partner.

In the context of the cooperation agreement, we grant the company named above the right to manufacture and sell the SIVACON design verified low-voltage power distribution board.

Look at siemens.com/technology-partner

The certificate is valid until: 12.08.2025
Certificate no: LV0620-005

Leipzig, 19.09.2024
Siemens Aktiengesellschaft

i.V. Eckhard Schönfisch

SIEMENS Aktiengesellschaft SI EP EMS S SM

i.V. Kathleen Koch

SIEMENS

ISO 9001, Certificates by Tuv Nord



TÜVNORD

Certificate

TÜVNORD
TÜV HELLAS S.A.
ISO 9001
tuvhellas.gr

Management system as per

ELOT EN ISO 9001 : 2015

The Certification Body TÜV HELLAS (TÜV NORD) S.A. hereby confirms as a result of the audit, assessment and certification decision according to ISO/IEC 17021-1:2015, that the organization

SEGA M FOR ELECTRICAL PRODUCT
A3 Industrial Zone
10th of Ramadan City
Egypt

SEGA.M ELECTRICALPRODUCTS

operates a management system in accordance with the requirements of ELOT EN ISO 9001 : 2015 and will be assessed for conformity within the 3 year term of validity of the certificate.

Scope

Design, Development, Manufacturing and Sales of Electrical Panels Housing, Industrial Connectors, Plastic Distribution Boxes and Electrical Accessories and Distribution Panels with Electrical Components and LED Products.

Certificate Registration No. 041 13 0229
Audit Report No. E-2091/2024

Valid from 2024-10-16
Valid until 2027-10-15
Initial certification 2006

Athens, 07.10.2024

TÜV HELLAS (TÜV NORD) S.A. Certification Body

TÜV HELLAS (TÜV NORD) S.A.
282, Mesogeion Ave.
155 62 Athens, Greece
tuvhellas.gr

IAF ΕΣΥΔ MS Certification No of certificate 185

TÜV®

TÜVNORDGROUP

ISO , 14001 Certificates by Tuv Nord



TÜVNORD

Certificate

TÜVNORD
TÜV HELLAS S.A.
ISO 14001
tuvhellas.gr

Management system as per

ELOT EN ISO 14001 : 2015

The Certification Body TÜV HELLAS (TÜV NORD) S.A. hereby confirms as a result of the audit, assessment and certification decision according to ISO/IEC 17021-1:2015, that the organization

SEGA M FOR ELECTRICAL PRODUCT
A3 Industrial Zone
10th of Ramadan City
Egypt

SEGA.M ELECTRICALPRODUCTS

operates a management system in accordance with the requirements of ELOT EN ISO 14001 : 2015 and will be assessed for conformity within the 3 year term of validity of the certificate.

Scope

Design, Development, Manufacturing and Sales of Electrical Panels Housing, Industrial Connectors, Plastic Distribution Boxes and Electrical Accessories and Distribution Panels with Electrical Components and LED Products.

Certificate Registration No. 042 13 0032
Audit Report No. EM-0236/2024

Valid from 2024-10-08
Valid until 2027-10-07
Initial certification 2009

Athens, 07.10.2024

TÜV HELLAS (TÜV NORD) S.A. Certification Body

TÜV HELLAS (TÜV NORD) S.A.
282, Mesogeion Ave.
155 62 Athens, Greece
tuvhellas.gr

IAF ESYD MS Certification No of certificate 185

TÜV®

TÜVNORDGROUP

ISO , 45001 Certificates by Tuv Nord



TÜVNORD

Certificate

TÜVNORD
TÜV HELLAS S.A.
ISO 45001
tuvhellas.gr

Management system as per

ELOT ISO 45001 : 2018

The Certification Body TÜV HELLAS (TÜV NORD) S.A. hereby confirms as a result of the audit, assessment and certification decision according to ISO/IEC 17021-1:2015, that the organization

SEGA M FOR ELECTRICAL PRODUCT
A3 Industrial Zone
10th of Ramadan City
Egypt

SEGA.M ELECTRICALPRODUCTS

operates a management system in accordance with the requirements of ELOT ISO 45001 : 2018 and will be assessed for conformity within the 3 year term of validity of the certificate.

Scope

Design, Development, Manufacturing and Sales of Electrical Panels Housing, Industrial Connectors, Plastic Distribution Boxes and Electrical Accessories and Distribution Panels with Electrical Components and LED Products.

Certificate Registration No. 047 13 0021
Audit Report No. OH-0187/2024

End of validity of previous certificate: 2024-09-30
Recertification Audit Date: 2024-10-03
Valid from 2024-10-07
Valid until 2027-09-30
Initial certification 2012

Athens, 07.10.2024

TÜV HELLAS (TÜV NORD) S.A. Certification Body

TÜV HELLAS (TÜV NORD) S.A.
282, Mesogeion Ave.
155 62 Athens, Greece
tuvhellas.gr

IAF ESYD MS Certification No of certificate 185

TÜV®

TÜVNORDGROUP

Kema Certificates for Plastic Junction Box



CERTIFICATE

DEKRA

Issued to:
Applicant:
Sega-M Co. Electrical products
Industrial Area A3
44629 Ramadan City, Egypt

Licensee:
Sega-M Co. Electrical products
Industrial Area A3
44629 Ramadan City, Egypt

Product : Connection box for fixed electrical installations
Trade name(s) : SEGA M
Type(s)/model(s) : PR002 and PS001

The product and any acceptable variation thereto is specified in the Annex to this certificate and the documents therein referred to.

DEKRA hereby declares that the above-mentioned product has been certified on the basis of:
- a type test according to the standard(s) IEC 60670-1:2015, IEC 60670-22:2003 and IEC 60670-22:2003/AMD1:2015
- an inspection of the factory location according to CENELEC Operational Document CIG 021
- a DEKRA certification agreement with the number 6062646

DEKRA hereby grants the right to use the KEMA-KEUR certification mark.

The KEMA-KEUR certification mark may be applied to the product as specified in this certificate for the duration and under the conditions of the KEMA-KEUR certification agreement.

This certificate is issued on 21 February 2023 and expires upon withdrawal of one of the above mentioned standards.

Certificate number: 71-116389

DEKRA Certification B.V.

B.T.M. Holtus
Managing Director

R Zhou
Certification Manager

© Integral publication of this certificate is allowed

ACCREDITED BY THE DUTCH ACCREDITATION COUNCIL

PRODUCTS RvA C 091

KEMA KEUR

DEKRA Certification B.V. Meander 1051, 6825 MJ Arnhem P.O. Box 5185, 6802 ED Arnhem, The Netherlands
T +31 88 96 83000 F +31 88 96 83100 www.dekra.nl Company registration 09085396

Kema Certificates for Plastic Junction Box



DEKRA

CERTIFICATE

Issued to:
Applicant:
Sega-M Co. Electrical products
Industrial Area A3
44629 Ramadan City, Egypt

Licensee:
Sega-M Co. Electrical products
Industrial Area A3
44629 Ramadan City, Egypt

Product : Connection box for fixed electrical installations
Trade name(s) : SEGA M
Type(s)/model(s) : PRE003, PRE004 and PRE005

The product and any acceptable variation thereto is specified in the Annex to this certificate and the documents therein referred to.

DEKRA hereby declares that the above-mentioned product has been certified on the basis of:
- a type test according to the standard(s) IEC 60670-1:2015, IEC 60670-22:2003 and IEC 60670-22:2003/AMD1:2015
- an inspection of the factory location according to CENELEC Operational Document CIG 021
- a DEKRA certification agreement with the number 6062646

DEKRA hereby grants the right to use the KEMA-KEUR certification mark.

The KEMA-KEUR certification mark may be applied to the product as specified in this certificate for the duration and under the conditions of the KEMA-KEUR certification agreement.

This certificate is issued on 21 February 2023 and expires upon withdrawal of one of the above mentioned standards.

Certificate number: 71-116390

DEKRA Certification B.V.

B.T.M. Holtus
Managing Director

R Zhou
Certification Manager

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ACCREDITED BY THE DUTCH ACCREDITATION COUNCIL

PRODUCTS RvA C 001

KEMA KEUR

DEKRA Certification B.V. Meander 1051, 6825 MJ Arnhem P.O. Box 5185, 6802 ED Arnhem, The Netherlands
T +31 88 96 83000 F +31 88 96 83100 www.dekra.nl Company registration 09085396

EIOT



ΕΛΟΤ
HELLENIC ORGANIZATION FOR STANDARDIZATION S.A.
MEMBER OF
ISO-IEC-CEN-CENELEC-ETSI-IQNET

To
SEGA.M Elecrical Products
Industriai Area (A3), P.O. BOX 93
10th of RAMADAN – EGYPT

Your reference: Application- 19/01/2009
Our reference: 00.335/3/08-343/GL/vou **Date:** 2009-01-23

Dear Sirs,

Find attached the Test Report with ref. No: **03-09/00.335/ 2009-01-23** and the Test Results with ref. No: **00.335/ 2009-01-23**, which are referred to an empty switch-gear metallic box TYPE: **IP65Box065**, applied to our Laboratory for IP Testing.

According to the Test Report and Test Results, the tested item **complies** with the requirements of the Standard: EN 60529:1991 (incl. Corrigendum:1993)+A1:2000, regarding the degree of protection **IP65**.

Faithfully yours.
ELOT TESTING LABORATORIES

G. Larentzakis
Head, Low Voltage Laboratory

Attached: - Test report
- Test results

1/1

Central Offices: Acharnon 313, 111 45 **Athens,** Tel: +30210 2120 301, Fax: +30210 2286 219, http://www.elot.gr, e-mail: gkl@elot.gr
Testing Labs: Kolonou 12-14, 104 37 **Athens**, Tel.: +30210 5248 875, +30210 5247 117-8, Fax: +30210 524 1371
Testing Lab Rubbers Plastics: Industrial Area, 570 22 Sindos, **Thessaloniki,** Tel.: +302310 798 845, Fax: +302310 797 592
Library in North Greece: Industrial Area, 570 22 Sindos, **Thessaloniki,** Tel : +302310 798 845, Fax: +302310 797 592

ΕΛΟΤ Ε009.001.01ΕΝG/1η/2000-07-05

EIOT



ΕΛΟΤ

ΕΛΛΗΝΙΚΟΣ ΟΡΓΑΝΙΣΜΟΣ ΤΥΠΟΠΟΙΗΣΗΣ Α.Ε.
HELLENIC ORGANIZATION FOR STANDARDIZATION S.A.
ΜΕΛΟΣ ΤΩΝ / MEMBER OF ISO-IEC-CEN-CENELEC-ETSI-IQNET

ΔΙΕΥΘΥΝΣΗ ΕΡΓΑΣΤΗΡΙΩΝ
TESTING LABORATORIES
ΕΡΓΑΣΤΗΡΙΟ ΧΑΜΗΛΗΣ ΤΑΣΗΣ
LOW VOLTAGE LABORATORY
Κολωνού 12-14, 104 37 ΑΘΗΝΑ Τηλ: 210 5247117ή 8 Fax: 210 5241371
12-14 Kolonou St., 104 37 ATHENS, Tel.: +30 210 5247117 / 8 Fax :+ 30 210 5241371, e- mail : gkl@elot.gr

Κωδικός Έκθεσης: 03-09/ 00.335
Report No
Ημ/νία Έκδοσης: 2009-01-23
Issue date

ΕΚΘΕΣΗ ΔΟΚΙΜΩΝ (ΣΧΗΜΑ CB/ CCA)
TEST REPORT (CB/CCA SCHEME)

Πελάτης	:	"SEGA.M" Ηλεκτρικά προϊόντα Βιομ/κή Περιοχή (Α3) P.O. BOX 93, 10th RAMADAN- ΑΙΓΥΠΤΟΣ
Client	:	**"SEGA.M" Electrical Products Industrial Area (A3) P.O. BOX 93, 10th of RAMADAN- EGYPT**
Αίτηση **Application**	:	**343/2009-01-19**
Προδιαγραφές ή Πρότυπα **Specifications or Standards**	:	**EN 60529:1991 (incl.Corrigendum:1993)+A1:2000**
Δοκιμασθέν δείγμα	:	Κενό μεταλλικό κουτί για ηλεκτρικές εγκαταστάσεις
Item tested	:	**Empty switch-gear metallic box**
Ονομαστικά χαρακτηριστικά **Rating characteristics**	:	ΤΥΠΟΣ / **TYPE: IP65Box065** ΠΡΟΣΤΑΣΙΑ/ **PROTECTION: IP 65**
Κατασκευαστής / Εισαγωγέας **Manufacturer / Importer**	:	**SEGA.M**
Εμπορική Επωνυμία **Trade Name**	:	**SEGA.M**
Χώρα κατασκευής **Country of Origin**	: :	ΑΙΓΥΠΤΟΣ **EGYPT**

TXT /E03.03/3η/2000-10-09 E03.03.doc Σελίδα/page 1 από/from 2

ΕΙΟΤ

ΕΛΟΤ

Αποτελέσματα	:	*Το δοκιμασθέν δείγμα ικανοποιεί τις απαιτήσεις του Προτύπου, ως προς το βαθμό προστασίας IP65.* *ΣΗΜΕΙΩΣΗ:* *Ο κενός πίνακας δεν συνοδεύεται ούτε με στυπιοθλίπτες για τα καλώδια ούτε με μέσα στερέωσης.*
Results	:	**The tested sample complies with the requirements of the Standard, regarding the degree of protection IP65.** **NOTE:** **The empty switch-gear is not accompanied by glands for cable-inlets either by fixing facilities.**

Υπεύθυνος Εργαστηρίου Χαμηλής Τάσης
Head, Low Voltage Laboratory

Γ. Λαρεντζάκης
G. Larentzakis

ΕΛΛΗΝΙΚΟΣ ΟΡΓΑΝΙΣΜΟΣ ΤΥΠΟΠΟΙΗΣΗΣ Α.Ε. ΕΛΟΤ

Η παρούσα Έκθεση Δοκιμών αναφέρεται αποκλειστικά και μόνο στο συγκεκριμένο δείγμα που δοκιμάσθηκε και οι δοκιμές που πραγματοποιήθηκαν αναφέρονται αναλυτικά στη συνημμένη Έκθεση Αποτελεσμάτων δοκιμών με στοιχεία: 00.335/2009-01-23.
Η έκδοση του εγγράφου αυτού, δεν δηλώνει Έγκριση, Πιστοποίηση ή Επιτήρηση από τον ΕΛΟΤ Α.Ε. για οποιοδήποτε προϊόν.
Το παρόν έγγραφο δε θα αναπαραχθεί, χωρίς τη γραπτή έγκριση του Εργαστηρίου, παρά μόνο σε πλήρη μορφή.

This Test Report applies only to the particular sample tested and the specific tests carried out are detailed in the attached Test Report, with ref. No: 00.335/2009-01-23.
The issuing of this Test Report, does not indicate any measure of Approval, Certification or Surveillance by ELOT S.A. of any product.

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ΕΛΟΤ

ΕΛΛΗΝΙΚΟΣ ΟΡΓΑΝΙΣΜΟΣ ΤΥΠΟΠΟΙΗΣΗΣ Α.Ε.
HELLENIC ORGANIZATION FOR STANDARDIZATION S.A.
ΜΕΛΟΣ ΤΩΝ / MEMBER OF ISO-IEC-CEN-CENELEC-ETSI-IQNET

ΔΙΕΥΘΥΝΣΗ ΕΡΓΑΣΤΗΡΙΩΝ
TESTING LABORATORIES
ΕΡΓΑΣΤΗΡΙΟ ΧΑΜΗΛΗΣ ΤΑΣΗΣ
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Κολωνού 12-14, 104 37 ΑΘΗΝΑ Τηλ: 210 5247117/8 Fax: 210 5241371
12-14 Kolonou St., 104 37 ATHENS, Tel.: +30 210 5247117 / 8 Fax :+ 30 210 5241371, e- mail : gkl@elot.gr

Κωδικός Έκθεσης: 04-09/ 00.336
Report No
Ημ/νία Έκδοσης: 2009-01-23
Issue date

ΕΚΘΕΣΗ ΔΟΚΙΜΩΝ (ΣΧΗΜΑ CB/ CCA)
TEST REPORT (CB/CCA SCHEME)

Πελάτης	:	"SEGA.M" Ηλεκτρικά προϊόντα Βιομ/κή Περιοχή (Α3) P.O. BOX 93, 10th RAMADAN- ΑΙΓΥΠΤΟΣ
Client	:	**"SEGA.M" Electrical Products Industrial Area (A3), P.O. BOX 93, 10th of RAMADAN- EGYPT**
Αίτηση **Application**	:	**344/2009-01-19**
Προδιαγραφές ή Πρότυπα **Specifications or Standards**	:	**EN 60529:1991 (incl.Corrigendum:1993)+A1:2000**
Δοκιμασθέν δείγμα	:	Κενό μεταλλικό κουτί για ηλεκτρικές εγκαταστάσεις
Item tested	:	**Empty switch-gear metallic box**
Ονομαστικά χαρακτηριστικά **Rating characteristics**	:	ΤΥΠΟΣ / **TYPE: Box065** ΠΡΟΣΤΑΣΙΑ/ **PROTECTION: IP54**
Κατασκευαστής / Εισαγωγέας **Manufacturer / Importer**	:	**SEGA.M**
Εμπορική Επωνυμία **Trade Name**	:	**SEGA.M**
Χώρα κατασκευής **Country of Origin**	: :	ΑΙΓΥΠΤΟΣ **EGYPT**

TXT /E03.03/3η/2000-10-09 E03.03.doc Σελίδα/page 1 από/from 2

ΕΙΟΤ

ΕΛΟΤ

Αποτελέσματα	:	*Το δοκιμασθέν δείγμα ικανοποιεί τις απαιτήσεις του Προτύπου, ως προς το βαθμό προστασίας IP54.* *ΣΗΜΕΙΩΣΗ:* *Ο κενός πίνακας δεν συνοδεύεται ούτε με στυπιοθλίπτες για τα καλώδια ούτε με μέσα στερέωσης.*
Results	:	**The tested sample complies with the requirements of the Standard, regarding the degree of protection IP54.** **NOTE:** **The empty switch-gear is not accompanied by glands for cable-inlets either by fixing facilities.**

Υπεύθυνος Εργαστηρίου Χαμηλής Τάσης
Head, Low Voltage Laboratory

Γ. Λαρεντζάκης
G. Larentzakis

ΕΛΛΗΝΙΚΟΣ ΟΡΓΑΝΙΣΜΟΣ ΤΥΠΟΠΟΙΗΣΗΣ Α.Ε. ΕΛΟΤ

Η παρούσα Έκθεση Δοκιμών αναφέρεται αποκλειστικά και μόνο στο συγκεκριμένο δείγμα που δοκιμάσθηκε και οι δοκιμές που πραγματοποιήθηκαν αναφέρονται αναλυτικά στη συνημμένη Έκθεση Αποτελεσμάτων δοκιμών με στοιχεία: 00.336/2009-01-23.
Η έκδοση του εγγράφου αυτού, δεν δηλώνει Έγκριση, Πιστοποίηση ή Επιτήρηση από τον ΕΛΟΤ Α.Ε. για οποιοδήποτε προϊόν.
Το παρόν έγγραφο δε θα αναπαραχθεί, χωρίς τη γραπτή έγκριση του Εργαστηρίου, παρά μόνο σε πλήρη μορφή.

This Test Report applies only to the particular sample tested and the specific tests carried out are detailed in the attached Test Report, with ref. No: 00.336/2009-01-23.
The issuing of this Test Report, does not indicate any measure of Approval, Certification or Surveillance by ELOT S.A. of any product.

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TUV Certificates for load Counter MCCB

CERTIFICATE of Conformity

TÜVRheinland®

Certificate No.: MK 69241826 0001

Test Report No.: 28213374 002

Certificate Holder: SEGA-M Company
Industrial Area A3'10th
Ramadan City
Egypt

Manufacturer: SEGA-M Company
Industrial Area A3'10th
Ramadan City
Egypt

Product: Distribution boards type FB

Identification: Type designaton:

	incoming MCCB: (busbar rating)	Number of outgoing circuits:
MFB-4250160-GE	FE 250 A	4
MFB-6250160-GE	FE 250 A	6
MFB-8250160-GE	FE 250 A	8
MFB-10250160-GE	FE 250 A	10
MFB-4400160-GE	FG 400 A	4
MFB-6400160-GE	FG 400 A	6
MFB-8400160-GE	FG 400 A	8
MFB-10400160-GE	FG 400 A	10

Type of outgoing MCCB:FD 16-160 A

Tested according to: EN 61439-2:2009

This certificate refers to the above mentioned product. This is to certify that the test sample is in conformity with the requirements stated above. This certificate does not imply assessment of the series-production of the product and does not permit the use of a TÜV Rheinland mark of conformity.

TÜV Rheinland InterCert Kft.

Certification Body

Rerencne Schmidt

Date of Issue:

Budapest, 2012.03.19

TÜV Rheinland InterCert Kft. – Product Certification Body — H-1132 Budapest, Váci út 48/A-B — www.tuv.hu
IT_07-D-Pe_4_0

GINDRE DUCHAVANY

INSPECTION CERTIFICATE 3.1 EN 10204	Date: 04/05/2020 Nr : RCF240889-0	
SEGA-M INDUSTRIAL AREA A3 . 10TH OF RAMADAN CITY EGYPTE	Our Order Nr : GD087442*2 - F639892	Order Qty : 1000 KG
	Your Order Nr: ORDER DATED 24/02/20	

CUETP HALF HARD TEMPER
COPPER PROFILE GD1975
PLAN : 8PQ9100-5AA14.04
IN 1800MM-0/+20MM EN13605

EN 13605 Drawing Nr : 8PQ9100-5AA14.04 Your Item Ref :	CUA1 H12 GD 1975 BA CW004A/CuA1/E-Cu57/C101/_/C11000

Parameters	Min	Max	Values	
SIZE GD1	39.8	40	39.9	mm
SIZE GD2	29.8	30	29.9	mm
SIZE GD3	10.86	11.14	11.02	mm
SIZE GD4	11	11.2	11.17	mm
CONDUCTIVITY	57		57.8	MS/m
HARDNESS HB 2.5/62.5	65	95	93.4	
WEIGHT CONTROLED (KG)			606.00	

GINDRE DUCHAVANY
31, Rue Giffard
38230 PONT-DE-CHERUY

This certificate is generated automatically and valid without personnal sign
We hereby certify that the material described above complies with terms of the order contract

Certificat ISO 9001 AFNOR N° 2019/83340.1	Page: 1/1	Quality ASSURANCE D. GENILLON Rémy

31, Rue Giffard - B.P.23 - 38231 PONT DE CHERUY FRANCE. Tél.: 04 72 46 09 00 FAX: 04 78 32 66 55 TELEX 370 871
S.A. au capital de 8 568 300 Euro - R.C. Lyon B 955 508 817 - SIRET 955 508 817 00074 - Cod

EGAC Certificates



شهادة اعتماد رقم(٠٢١٤٠٣/أ١)

جمهورية مصر العربية

المجلس الوطني للاعتماد (إيجاك)

يشهد بأن

معمل سيجا.ام

شركة سيجا.ام للمنتجات الكهربائية

(٣ أ) المنطقة الصناعية – مدينة العاشر من رمضان

محافظة الشرقية – مصر

قد حصل على اعتماد المجلس حيث تم تقييمه طبقاً للمواصفة الدولية

ISO/IEC 17025:2017

في قياس سمك طبقة الطلاء وقياس شدة الإضاءة وقياس كفاءة الطاقة للكشافات واللمبات
وتعيين درجة الحماية للكشافات واللوحات وتعيين درجة الحماية ضد الصدمات للأجهزة الكهربائية

الموضحة بالبيان المرفق رقم (٠٢١٤٠٣/١ب)

رقم إصدار المجال (٠١)

اصدار رقم (٠١): ١٢ يناير ٢٠٢٣ صالحة حتى: ١١ يناير ٢٠٢٧

شرط الحفاظ على التوافق مع المواصفات أعلاه والمتطلبات الخاصة بالمجلس

المعمل له الحق في إصدار تقارير/شهادات تحت مظلة المجلس الوطني للاعتماد طبقا لمجال الاعتماد المرفق

المجلس الوطني للاعتماد موقع على اتفاقية الاعتراف المتبادل مع منظمة التعاون الدولي لاعتماد المعامل (ILAC)

في مجال اعتماد معامل المعايرة والاختبار والتحاليل الطبية ومقدمي خدمة اختبارات الكفاءة الفنية وجهات التفتيش

مهندس/ أحمد سمير صالح

رئيس المجلس

وزير التجارة والصناعة

مهندس / هانى الدسوقي

المدير التنفيذي للمجلس

EGAC Certificates



Accreditation Certificate No. (021403/1A)

Arab Republic of Egypt

Egyptian Accreditation Council (EGAC)

Certifies that

SEGA.M Laboratory

SEGA.M Company for Electrical Products

Industrial Zone (A3) - 10th of Ramadan City
Sharkia Governorate - Egypt

Has been accredited by EGAC in compliance with the requirements of
ISO/IEC 17025:2017

In Measurement of Coating Thickness, Luminous Flux and Energy Efficiency of Lamps and Luminaries and the Degree of Protection for Luminaries and Enclosure and determination of Degree of Protection Against Impact for Electrical Devices

The scope of accreditation is described issue n the attached schedule No. (021403/1B)
Scope No. (01)

Issue No. (01): January 12, 2023 Valid to: January 11, 2027

Subject to continued compliance to the above standard and EGAC requirements

The Laboratory is accredited to issue reports/certificates under EGAC Accreditation
According to the attached scope of accreditation

EGAC is an ILAC MRA Signatory in the Field of Calibration, Testing, Medical Labs, Proficiency Testing Providers and Inspection Bodies Accreditation

Eng. Hanie El Desouki
EGAC Executive Director

Eng. Ahmed Samir Saleh
Chairman of EGAC
Minister of Trade and Industry

Egypian Electricity holding company certificete



شهادة سجل صناعي

رقم السجل: 0918042701027984 (2005)

تاريخ الإصدار: 20/03/2023 تاريخ الإنتهاء: 16/01/2025

اسم المنشأة الصناعية: سيجا ام للمنتجات الكهربائية SEGA.M . ELE CTRICALPRODUCTS

اسم الشركة: سيجا ام للمنتجات الكهربائية SEGA.M . ELE CTRICALPRODUCTS

السمة التجارية: ---------- الكيان القانوني: مساهمة

عنوان المنشأة الصناعية: قطعة 41 و 75 -المنطقة الصناعية A3 -مدينةالعاشر من رمضان - الشرقية

م	إسم المنتج	كود المنتج	تصنيفات المنتج	الطاقة الإنتاجية السنوية	
				الوحدة	الكمية
1	كشاف ليد (إضاءة شوارع)	9405420004	100. وات 50. وات 150. وات	عدد بالألف	30 (ثلاثون)
2	كشاف ليد (إضاءة داخلية)	9405420002	بانل (60*60). 30. وات 50. وات 40. وات 60. وات	عدد	30 (ثلاثون)
3	لوحات ربط حلقية جهد متوسط	8537209020		عدد	100 (مائة)
4	اسبوت لايت ليد	9405492002	قدرة 5. وات	عدد	20

اعتماد

14419

صفحة 1 من 4

حررت هذه الشهادة وفقاً لأحكام القانون رقم ٢٤ لسنة ١٩٧٧ ، ولائحته التنفيذية وتعديلاتها والقرارات المنظمة له، ووفقاً للبيانات والمستندات المقدمة من المنشأة المذكورة ويرتبط سريان هذا السجل باستمرار صحة المستندات الصادرة عنه، ولاتخول هذه الشهادة لصاحبها أي حقوق تتعلق بملكية المنشأة.

Egypian Electricity holding company certificete



تابع شهادة سجل صناعى

رقم السجل: 0918042701027984 (2005)

م	إسم المنتج	كود المنتج	تصنيفات المنتج	الطاقة الإنتاجية السنوية	
				الوحدة	الكمية
13	لوحات عمومية ضغط منخفض	8537200010	4000A.	عدد	1,200 (ألف و مائتان)
14	لوحات توزيع كهرباء للشقق - تابلوه شقه	8537109030		عدد بالألف	100 (مائة)
15	كبائن - أكشاك كهرباء	8537200030		عدد	100 (مائة)
16	مجموعةماجيك (مفتاح-بريزة- جرس ...)	8537109010		عدد بالألف	100 (مائة)
17	مسبوكات الومنيوم متنوعة	7616999093		طن	340 (ثلاثمائة و أربعون)
18	جلفنة وتنكيل المعادن	7204410120		طن	100 (مائة)
19	صنع أعمدة إنارة معدنية	7308200045		عدد	500 (خمسمائة)
20	مستلزمات كهرباء	3925900091	من البلاستك.	طن	15 (خمسة عشر)
21	علب بلاستيك لاعمال الكهرباء(لوحة - جرس)	3925900081		طن	30 (ثلاثون)
22	بواط من	3925900085		طن	90

اعتماد

14420

صفحة 3 من 4

حررت هذه الشهادة وفقاً لأحكام القانون رقم ٢٤ لسنة ١٩٧٧ ، ولائحته التنفيذية وتعديلاتها والقرارات المنظمة له، ووفقاً للبيانات والمستندات المقدمة من المنشأة المذكورة ويرتبط سريان هذا السجل باستمرار صحة المستندات الصادرة عنه، ولاتخول هذه الشهادة لصاحبها أى حقوق تتعلق بملكية المنشأة.

Permanent operating license certificate with an advanced system



رخصة تشغيل دائمة بنظام المسبق

رقم الرخصة: 312020092100001

تاريخ الإصدار: 21/09/2020

اسم المنشأة الصناعية: سيجا ام للمنتجات الكهربائية SEGA.M . ELE CTRICALPRODUCTS

اسم الشركة: سيجا ام للمنتجات الكهربائية SEGA.M . ELE CTRICALPRODUCTS

الكيان القانوني: مساهمة السمة التجارية: ----------

عنوان المنشأة الصناعية: قطعة 41 و 75 -المنطقة الصناعية A3 -مدينةالعاشر من رمضان - الشرقية

القوى المحركة (كيلو وات): من 501:1000 ك/ت

م	مسمي النشاط	كود النشاط
1	صنع مفاتيح التوزيع والتحكم واللوحات الكهربائية	271030
2	صنع الملفات والمحولات من المكونات الالكترونية	261070
3	صنع أعمدة إنارة معدنية	251120
4	صنع قطع ووصلات بلاستيك	222025
5	جلفنة وتنكيل المعادن	259230
6	صنع اللمبات بجميع أنواعها	274010
7	صنع أجزاء معدنية مغذية لصناعات مختلفة	259940
8	معالجة وطلي المعادن باستخدام عملية اليكتروليتية أو كيميائية	259210
9	صنع الكشافات بجميع أنواعها	274020
10	صنع مسبوكات الالومنيوم	243220

اعتماد

صفحة 1 من 2 تاريخ الطباعة: PM 01:50 06/02/2023

24187

حررت هذه الرخصة وفقاً لأحكام القانون رقم ١٥ لسنة ٢٠١٧ ، ووفقاً للبيانات والمستندات المقدمة من المنشأة المذكورة ويرتبط سريان هذه الرخصة بإستمرار صحة المستندات الصادرة عنها. وتنفيذ الإشتراطات المقررة لها، والتزام بسداد رسوم المتابعة السنوية، ولا تخول لصحابها أى حقوق تتعلق بملكية المنشأة

Permanent operating license certificate with an advanced system



تابع رخصة التشغيل 312020092100001

تاريخ اخر متابعة سنوية 21/09/2022

اعتماد

تاريخ الطباعة: PM 01:50 06/02/2023

صفحة 2 من 2

Export Certificate



قطاع خدمات الاستثمار
Investment Services Sector
الإدارة العامة للخدمات الفنية

شهادة رقم: ٣١٣٥٩٦٢
صادرة فى: ٢٠٢٤/١٢/١٨ ٠٧:

شهادة تصدير
لمنتجات الشركات و المنشآت
وفقاً لأحكام قانون الاستثمار

صالحة من ٢٠٢٤/١٢/١٨ إلى ٢٠٢٥/١٢/١٧

اسم الشركة : (سيجا ام - للمنتجات الكهربائيه)SEGA.M. ELECTRICAL PRODUCTS

الشكل القانونى : شركة مساهمة مصرية

قرار التأسيس رقم : ١٤٣٦ صادر بتاريخ : ٢٠٠١/٠٦/٠٥ بنظام الاستثمار الداخلى .

موقع ممارسة النشاط : القطعة (٤١ - ٧٥) المنطقة الصناعية أ٣ - بمساحه ٢٢٥٢٢٣.٨٢م٢ مدينة العاشر من رمضان - محافظة الشرقية .
فرع انتاجى:- قطعة ٢٣٨ المنطقة الجنوبية ٦ مليون م٢ - العاشر من رمضان -الشرقية.

سجل تجارى معدل رقم : ١٦٢٩٣٢ بتاريخ : ٢٠٢١/٠٣/٠٧

تسجيل ضريبى رقم : ٦٢٦-١٢٢-٧٢٤

تاريخ بدء الإنتاج : ٢٠٠٤/١١/١٥

وذلك فى ضوء كل من الآتي:-

- غرضها المعتمد من الهيئة و الخاضع لأحكام قانون الاستثمار كما هو مدون فى خلف تلك الشهادة.
- القواعد و الإجراءات و اللوائح المعمول بها لدى مصلحة الجمارك فى هذا الشأن.
- التعهد المقدم منها بأن المنتجات التي تقوم بتصديرها من إنتاجها فقط و تحت مسئوليتها دون أدني مسئولية على الهيئة العامة للاستثمار و المناطق الحرة.

وهذه الشهادة صالحة للتصدير عن طريق كافة الدوائر و المنافذ الجمركية بجمهورية مصر العربية.
وعليها مراعاة التقدم للهيئة العامة للاستثمار والمناطق الحرة لتعديل هذه الشهادة في حالة تعديل البيانات.

المدير العام

رئيس الإدارة المركزية
للخدمات

00015671

Egypian National Institute for Calibration certificete



PT Egypt

NIS

Certificate

of

Participation in Proficiency Testing

Measurements of AC Power for Electrical Street Lights

NPTL-DPSL-1-22

Organized by

National Proficiency Testing Laboratory - NPTL
National Institute of Standards -NIS

Participant Lab

SEGA-M Laboratory
SEGA-M for Electrical Products, Egypt

Lab.Code:1

The lab has Participated in This Proficiency Testing Scheme
This Scheme was organized according to the requirements of ISO/IEC 17043:2010
For more details, see the attached report No.1, Code NPTL-DPSL-1-22

NPTL Head
Prof. Dr. Hala Abdel Megeed

PTL NIS

NIS President
Prof. Dr. Noha E. Khaled

Tersa Street, El Harm Giza,Egypt.P.O.Box-136 Giza,Code No.12211
Tel/Fax: 33829446 – E: PTL@nis.sci.eg

Issue date: 31/7/2022

Egypian National Institute for Calibration certificete



PT Egypt

NIS

Certificate

of

Participation in Proficiency Testing

Measuring Luminous Flux of Lamps

NPTL-MLFL-1-20

Organized by

National Proficiency Testing Laboratory - NPTL

National Institute of Standards -NIS

Participant Lab

SEGA-M Company for Electrical Products, Egypt

Lab.Code:1

The lab has Participated in This Proficiency Testing Scheme

This Scheme was organized according to the requirements of ISO/IEC 17043:2010

For more details, see the attached report No.1, Code NPTL-MLFL-1-20

PTL NIS

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Issue date: 11 / 6 / 2020

Egypian National Institute for Calibration certificete



PT Egypt

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Certificate

of

Participation in Proficiency Testing

Measuring Luminous Flux of Lamps

NPTL-MLFL-1-20

Organized by

National Proficiency Testing Laboratory - NPTL

National Institute of Standards -NIS

Participant Lab

SEGA-M Company for Electrical Products, Egypt

Lab.Code:1

The lab has Participated in This Proficiency Testing Scheme

This Scheme was organized according to the requirements of ISO/IEC 17043:2010

For more details, see the attached report No.1, Code NPTL-MLFL-1-20

PTL NIS

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Issue date: 11 / 6 / 2020

Egypian National Institute for Calibration certificete



PT Egypt

NIS

Certificate

of

Participation in Proficiency Testing

Degrees of Protection Provided by Enclosures for LED Luminaire against external mechanical impacts (IK 08)

NPTL-DPIK-1-22

Organized by

National Proficiency Testing Laboratory - NPTL
National Institute of Standards -NIS

Participant Lab

SEGA-M Laboratory
SEGA-M for Electrical Products, Egypt

Lab. Code:1

The lab has Participated in This Proficiency Testing Scheme
This Scheme was organized according to the requirements of ISO/IEC 17043:2010
For more details, see the attached report No.1, Code NPTL-DPIK-1-22

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Issue date: 30 / 8 / 2022

Egypian National Institute for Calibration certificete



Certificate

of

Participation in Proficiency Testing

Coating Thickness Measurements (Ferrous Type)

NPTL-CTM-2-22

Organized by

National Proficiency Testing Laboratory - NPTL
National Institute of Standards -NIS

Participant Lab

SEGA-M Laboratory

SEGA-M for Electrical Products, Egypt

Lab. Code:1

The lab has Participated in This Proficiency Testing Scheme

This Scheme was organized according to the requirements of ISO/IEC 17043:2010

For more details, see the attached report No.1, Code NPTL-CTM-2-22

NPTL Head
Prof. Dr. Hala Abdel Megeed

NIS President
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Issue date: 31 / 8 / 2022

Egypian National Institute for Calibration certificete



PT Egypt

NIS

Certificate

of

Participation in Proficiency Testing

Classifying the Degree of Protection Provided by Enclosures (IP 65) for LED Luminaire

NPTL-ECIP-1-22

Organized by

National Proficiency Testing Laboratory - NPTL
National Institute of Standards -NIS

Participant Lab

SEGA-M Laboratory
SEGA-M for Electrical Products, Egypt

Lab. Code:1

The lab has Participated in This Proficiency Testing Scheme
This Scheme was organized according to the requirements of ISO/IEC 17043:2010
For more details, see the attached report No.1, Code NPTL-ECIP-1-22

PTL NIS

NPTL Head
Prof. Dr. Hala Abdel Megeed

NIS President
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Issue date: 30 / 8 / 2022

Egypian National Institute for Calibration certificete



PT Egypt

NIS

Certificate

of Participation in Proficiency Testing

Degree of Protection Provided by Enclosure Test (IP 54)

NPTL-IP54-1-18

Organized by

National Proficiency Testing Laboratory - NPTL
National Institute of Standards -NIS

Participant Lab

SEGA-M Company for Electrical Products, Egypt

Lab. Code: 1

The lab has Participated in This Proficiency Testing Scheme
This Scheme was organized according to the requirements of ISO/IEC 17043:2010
For more details, see the attached report No.1, Code NPTL-IP54-1-18

PTL NIS

NPTL Head
Assoc. Prof. Dr. Hala Abd El Megeed
Issue date: 3 / 3 / 2019

NIS President
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Egypian National Institute for Calibration certificete



PT Egypt

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Certificate

of Participation in Proficiency Testing

Degree of Protection Provided by Enclosure Test (IP 54)

NPTL-IP54-1-18

Organized by

National Proficiency Testing Laboratory - NPTL
National Institute of Standards -NIS

Participant Lab

SEGA-M Company for Electrical Products, Egypt

Lab. Code: 1

The lab has Participated in This Proficiency Testing Scheme
This Scheme was organized according to the requirements of ISO/IEC 17043:2010
For more details, see the attached report No.1, Code NPTL-IP54-1-18

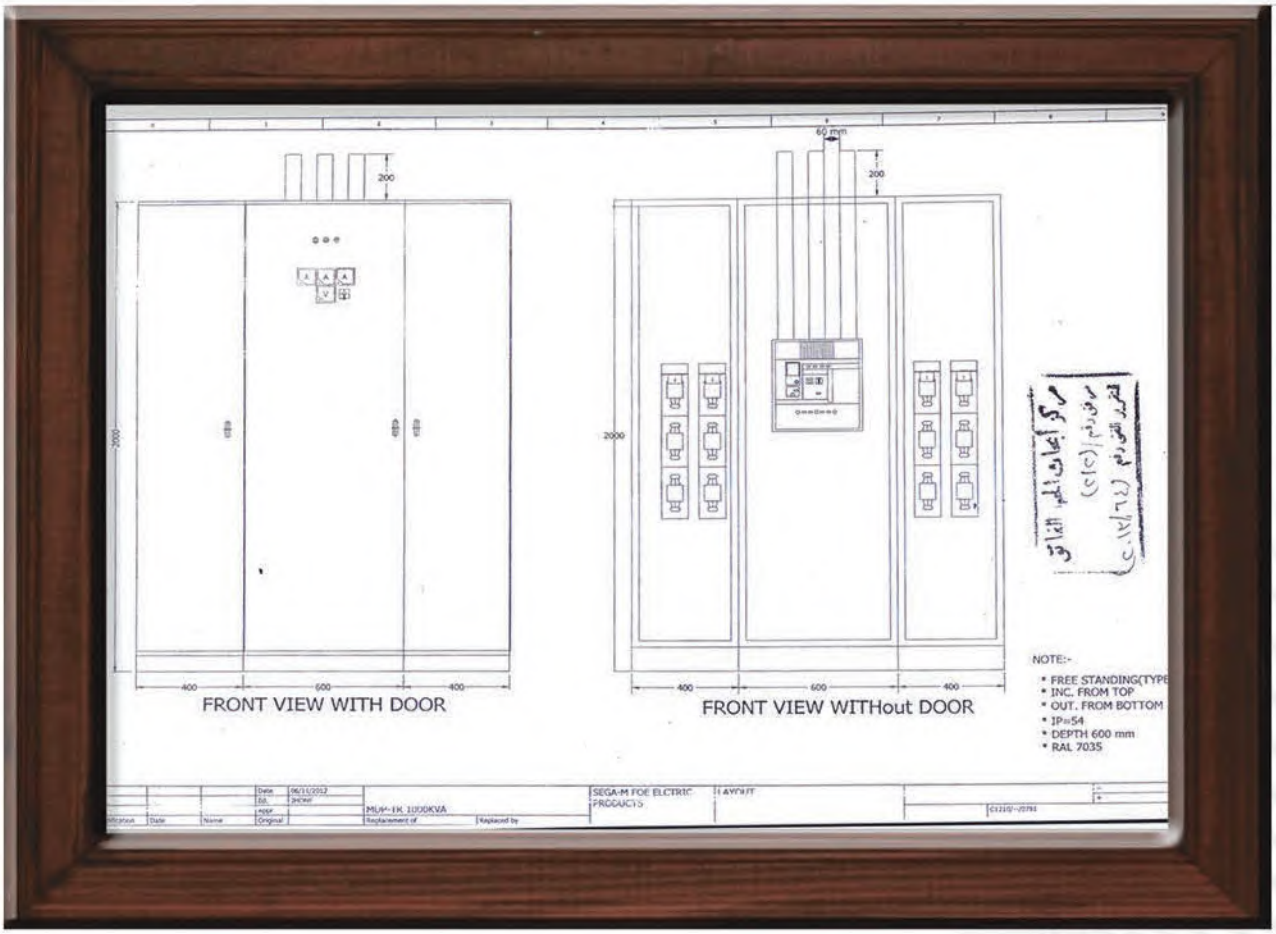
PTL NIS

NPTL Head
Assoc. Prof. Dr. Hala Abd El Megeed
Issue date: 3 / 3 / 2019

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Products certificates





تقرير اختبار

رقم التقرير : (٢٠١٢/٦٢)





Ministry of Electricity & Energy
Egyptian Electricity Holding Company
Chairman

وزارة الكهرباء والطاقة
الشركة القابضة لكهرباء مصر
رئيس مجلس الإدارة

الشركة القابضة لكهرباء مصر
رئيس مجلس الإدارة
صادر ١٠٩٩ مرفقات
تاريخ: ٢٤/٦/٢٠١٣

السادة / الشركة العربية المصرية للصناعات الكهربائية
٢٠ ش المتحف الزراعى – العجوزة – الجيزة – ف / ٣٧٦٠٦٤٤٦

تحية طيبة ... و بعد ،،،

بالإشارة إلى كتاب سيادتكم بتاريخ ١٢ /٢٠١٣/٦ بشأن طلب إعتماد سكينة الفيوز الثلاثية " fuse switch " جهد منخفض ٥٠٠ فولت سعة ٦٣٠ أمبير طراز NH3 صناعة شركة Pronutec الأسبانية.

أتشرف بالإحاطة بأن اللجنة المختصة بمراجعة المواصفات الفنية وتقارير الاختبارات ومعاينة عينة المهمة المقدمة قد أعدت تقريرها فى هذا الخصوص وقد إنتهى إلى ما يلى :-

- قبول سكينة الفيوز الثلاثية جهد منخفض ٥٠٠ فولت – سعة ٦٣٠ أمبير طراز NH3 من الفئة AC- 22B صناعة شركة Pronutec الأسبانية.
- ضرورة إلتزام الشركة العربية المصرية للصناعات الكهربائية بتحقيق كافة المتطلبات والمواصفات الفنية التى تطرحها شركات الكهرباء التابعة.

وتفضلوا بقبول فائق الاحترام ،،،

رئيس مجلس الإدارة

" مهندس / جابر دسوقى مصطفى "

Address : Abbassia, Cairo, Egypt
☎ : (٢٠٢) ٢٢٦١٦٤٨٧ – ٢٢٦١٦٣٠٦
Fax : (٢٠٢) ٢٢٦١٦٥١٢ – ٢٢٦١٢٢٣٩
P. Code : ١١٥١٧
E. Mail : eehc_chairman@link.net

العنوان : العباسية - القاهرة - مصر
☎ : (٢٠٢) ٢٢٦١٦٤٨٧ – ٢٢٦١٦٣٠٦
فاكس : (٢٠٢) ٢٢٦١٢٢٣٩ – ٢٢٦١٦٥١٢
رقم بريدى : ١١٥١٧

Products certificates



CERTIFICATE OF APPROVAL

AWARDED TO

شركة سيجا إم

تتشرف اللجنة المشكلة من الشركة القابضة لكهرباء مصر بعد مراجعة البيانات الفنية وتقارير الاختبارات النوعية للوحة المقدمة ومعاينة خطوط الإنتاج ومعمل الاختبارات الروتينية بالمصنع (المصورة) قد أعدت تقريرها في هذا الخصوص والذي انتهى إلى :-

قبول لوحة الجهد المنخفض حتى سعة ٤٠٠٠ أمبير طراز (SG-1) - إنتاج شركة سيجا إم - على أن تكون جميع المكونات الداخلية للوحة (قواطع – سويتش فيوز- .....) من الطرازات سارية الاعتماد من الشركة القابضة لكهرباء مصر

على أن تلتزم شركة سيجا إم بتحقيق كافة المتطلبات الفنية بكراسة الشروط والمواصفات التي تطرحها شركة الكهرباء التابعة.

هذا الاعتماد ساري لمدة ثلاث سنوات من تاريخه

مع مراعاة ضرورة تحديث هذا الخطاب في حالة تعديل المواصفات القياسية العالمية "IEC" أو المواصفات الفنية الموحدة للشركة القابضة لكهرباء مصر " ذات الصلة "

رئيس اللجنة

مهندس / الحسيني الحسيني الفار

مقرر اللجنة

مهندس أسامة إبراهيم محمد



تقرير اختبار

رقم التقرير : (٢٠١٨/٦١)

- العميـــــل : شركة ســـيجا إم -
- تاريخ التقرير : ٢٠١٨/٢/٢٦ .
- مكان الاختبار :
  مركز ابحاث الجهد الفائق .
  كود داخلي : TOAC- 19 - 02 - 07 - 01
- التطلبات : اجراء الاختبارات اللازمة طبقا للمواصفات القياسية العالمية .
- العينة :
  لوحة جهد منخفض سعة ٤٠٠٠ امبير – طراز : (SG1) برقم مسلسل : (MDB - 22019) انتاج شركة سيجا إم - صناعة محلية
- اختيار عينة الاختبار : تم اختيار عينات الاختبار تحت مسئولية العميل
- المواصفات القياسية العالمية المستخدمة :
  - IEC 61439-1(2011) : Low-voltage switchgear and controlgear assemblies- General rules.
- الاختبارات :
  ١. الفحص الظاهري .
  ٢. اختبار الارتفاع في درجة الحرارة .
  ٣. التحقق من خصائص العزل باجراء الاختبارين الاتيين:
  ٣.١ اختبار جهد الثبوت بالجهد المؤدد بقدره ٢,٢ ك.ف – لمدة ١ ثوان
  ٣.٢ اختبار جهد الثبوت النبضي الجهد النبضي بنسبة الصواعق ٥٠/١,٢ ميكروثانية بجهد قدره ٩,٨ ك.ف.
- معدات الاختبار :
  ١ محول التيار ٤٠٠٠ أمبير ٢٠٠٠ ك.ف.أ – طراز: (VBTTEID) – رقم مسلسل: (7.57064)
  ٢ محولي جهد ١١ ك.ف – طراز : (UZA12BD) – لكود IM-AC-12
  ٣ مولد نبضة الصواعق ٢٠ ك.ف – ٥ ك.جول – طراز: (PSurge 30.2).



تقرير اختبار

رقم التقرير : (٢٠١٨/٦١)

- الخلاصة :
  - اختارت لوحة جهد منخفض سعة ٤٠٠٠ أمبير – طراز : (SG1) - برقم مسلسل : (MDB - 22019) - انتاج شركة سيجا إم صناعة محلية الاختبارات المذكورة بهذا التقرير وعلى الجهة المستخدمة التأكد من اجراء باقي الاختبارات المنصوص عليها والمواصفات القياسية العالمية والتي لم يرد ذكرها بهذا التقرير.
- ملحوظة :
  - تم اجراء الاختبارات على العينات التي تم اختيارها فقط بمعرفة العميل دون اي مسئولية بخصوص العينات التي يتم توريدها .
  - أجريت الاختبارات بناء على طلب الجهة طالبة الاختبارات دون أدنى مسئولية على الشركة القابضة لكهرباء مصر لمركز ابحاث الجهد الفائق .
  - لايجوز اعادة استخدام أو نسخة مطبوعة من هذا التقرير مرة أخرى إلا بموافقة كتابية من مركز ابحاث الجهد الفائق ويشار إلى مصدرها كلما تم مناقشة .
  - لايركن لغير مسئول عن عينات الاختبار بعد استلام العميل للتقرير أو اكتمال الاختبار أو اجراء الاختبارات عليها لإثبات في فترة لاتجاوز شهرين من تاريخ استلام التقرير.
  - هذا التقرير ساري ما يحدث التأثير سواء في تصميم العينة أو في المواصفات القياسية المذكورة .
  - يجب مراجعة تحديث هذا التقرير كل ١٨ شهور للتحقق من مطابقة المواصفات القياسية المذكورة .
  - الإبقاء بهذا التقرير بدون الختم لا في حالة وجود كشط أو تعديل .

- مهندسو الاختبارات :
  - م. محمد عنتر - معمل التيار المؤدد
  - م.محمد خيري - معمل الولد الناطق

مدير ادارة المعامل والجودة الشاملة

م/ جمال السيد محمود

مدير عام البحوث الكهربية

م/ ضياء الدين العروسي

رئيس قطاع المعامل والبحوث والاختبارات

م/ محمد سليم سكاكر

Products certificates



CERTIFICATE OF APPROVAL

AWARDED TO

سيجا إم للصناعات الكهربائية

تتشرف اللجنة المشكلة من الشركة القابضة لكهرباء مصر بعد مراجعة البيانات الفنية وتقارير الاختبارات النوعية المقدمة ومعاينة خطوط الإنتاج ومعمل الاختبارات الروتينية بالمصنع (المصورة) قد أعدت تقريرها في هذا الخصوص والذي انتهى إلى قبول:

خلية جهد متوسط ١٢ ك.ف. سعة ١٢٥٠ أمبير طراز SIMOPRIME - إنتاج سيجا إم للصناعات الكهربائية مزودة بقاطع فراغي طراز 3AE5 سعة ١٢٥٠ أمبير – ذات سعة تيار قصر ٢٥ ك.أ./ ٣ ثانية & ٣١,٥ ك.أ./ ٣ ثانية صناعة شركة سيمنز.

مع الالتزام بالرسومات التصميمية للخلايا التي اجتازت الاختبارات النوعية وأن يكون القاطع بغلاف معدني

على أن تلتزم سيجا إم للصناعات الكهربائية بتحقيق كافة المتطلبات الفنية بكراسة الشروط والمواصفات التي تطرحها شركة الكهرباء التابعة.

مع مراعاة ضرورة تحديث هذا الخطاب في حالة تعديل المواصفات القياسية العالمية "IEC" أو المواصفات الفنية الموحدة للشركة القابضة لكهرباء مصر " ذات الصلة ".

هذا الاعتماد ساري لمدة ثلاث سنوات من تاريخه

رئيس اللجنة

مهندس / بدر الدين حلمي عبدالرازق



تقرير اختبار

رقم التقرير : (٢٠٢٠/٢٢٤)

- العميل : شركة سيجا إم للمنتجات الكهربائية
- تاريخ اصدار التقرير : ٢٠٢٠/٧/٦
- مكان الاختبار :
  - مركز ابحاث الجهد الفائق .
  - الكود الداخلي : TO - AC - 20 - 06 - 28 - 01
- المتطلبات : اجراء الاختبارات اللازمة على خلية جهد ١٢ ك.ف سعة ١٢٥٠ أمبير . طبقا للمواصفات القياسية IEC.
- العينة :
  - خلية جهد متوسط (١٢ ك.ف) - سعة ١٢٥٠ أمبير - طراز: (SIMOPRIME) - تصنيع شركة سيجا إم للمنتجات الكهربائية – مصنعة محلية - مزودة بقاطع فراغي - ماركة : (SIEMENS) - طراز 3AE5) IK= 31.5 KA/3 Sec - صناعة ألمانيا .
- اختيار عينة الاختبار : تم اختيار عينة الاختبار تحت مسئولية العميل .
- المواصفات القياسية العالمية المستخدمة :
  - IEC 62271-200)(2011):High-voltage switchgear and control gear - Part 200: A.C. metal-enclosed switchgear and control gear for rated voltages above 1 kV and up to and including 52 kV.
  - IEC (62271-1)(2017) : Common specifications for high-voltage switchgear and control gear standards
- توصيف معدات الاختبار :
  - RSK (400 – 3000 – 50 - مصادر جهد عالى
  - موند نبضة الصواعق ٨٠٠ ك.ف – ٤٠ جول – طراز : (IP 40 /800 M) رقم الشهادة ٢٠١٨/٢٢/٢٧
  - جهاز قياس المقاومات الصغيرة (Raytech) – طراز (WR50-12) برقم مسلسل (303-174) ورقم الشهادة ٢٠١٣/٢٢١/٠٧ .
  - محول التيار ١٤٠٠ امبير - ١٢٠ ك.ف – طراز: (VBTTEH) – رقم مسلسل (Z57064).
- الاختبارات :
  1. الفحص الظاهري وقياس الابعاد .
  2. اختبار جهد الثبوت بالجهد المؤدد ٥٠ ك.ف .
  3. اختبار جهد الثبوت بالجهد النبضي بنبضة الصواعق ٥٠/٨٢ ميكروثانية .
  4. اختبار الارتفاع في درجة الحرارة
  5. قياس المقاومة الكهربائية قبل وبعد اختبار الارتفاع في درجة الحرارة بحيث لايتعدى التغير في قيمة المقاومة ٢٠٪ .
  6. اختبار التشغيل الميكانيكي .



الشركة القابضة لكهرباء مصر

قطاع معامل مركز أبحاث الجهد الفائق

الكيلو ٢٢ طريق القاهرة الاسكندرية الصحراوي

رقم التقرير : (٢٠٢٠/٢٢٤)

- الخلاصة :
  - اجتازت خلية الجهد المتوسط (١٢ ك.ف) - سعة ١٢٥٠ امبير - طراز: (SIMOPRIME) - تصنيع شركة سيجا إم للمنتجات الكهربائية – صناعة محلية - مزودة بقاطع فراغي - ماركة : (SIEMENS) - طراز 3AE5) IK= 31.5 KA/3 Sec - صناعة ألمانيا الاختبارات المشار إليها بعاليه وعلى العهدة المستخدمة التأكد من إجراء باقي الاختبارات طبقا للمواصفات العالمية والتي لم يرد ذكرها بهذا التقرير .
- ملحوظة :
  - تم اجراء الاختبارات على العينات التي تم ارسالها فقط بمعرفة العميل دون ان مسئولية بخصوص العينات التي يتم توريدها .
  - أجريت الاختبارات بناء على طلب الجهة طالبة الاختبارات دون اني مسئولية على الشركة القابضة لكهرباء مصر (مركز ابحاث الجهد الفائق) فيما يتعلق بحقوق الغير .
  - لايمكن اعادة استخدام نسخة محفوظة من هذا التقرير مرة أخرى الا بموافقة كتابية من مركز ابحاث الجهد الفائق وبشرط اصدارها كاملة غير منقوصة .
  - المركز غير مسئول عن عينات الاختبار بعد استلام العميل لتقرير الاختبار الخاص بالعينة المورد والتي تم اجراء الاختبارات عليها وذلك في فترة لا تتجاوز شهرين من تاريخ استلام التقرير .
  - هذا التقرير صالح لغاية التحذير وبعد فاحص ثلاث سنوات ماعدا بحدث تغير في التصميم او المواصفات المذكورة بالتقرير .
  - التقرير غير قابل للتداول خارج الجهة الطالبة والمركز غير مسئول عن اي حقوق تغير من جراء هذا التقرير .
  - لايحق بهذا التقرير بدون الختم او في حالة وجود كشط او تعديل .

مهندسو الاختبارات :

- م/ محمد عنتر - معمل التيار المؤدد .
- م/ محمد خيري - معمل الجهد الذهني .

مدير ادارة البحوث الكهربية

م/ حمدي شوقي عبدالواحد

مدير ادارة المعايرة والجودة المتابعة

م/ ايهاب فوزي محمود

رئيس قطاع المعامل والبحوث والاختبارات

م/ محمد سليم سالمان

Products certificates



جمهورية مصر العربية
وزارة التجارة والصناعة

غرفة الصناعات الهندسية
Chamber of Engineering Industries

اتحاد الصناعات المصرية
Federation of Egyptian Industries

مجانا

شهادة

اسم المنشأة : شركة سيجا ام للمنتجات الكهربائية SEGA.M.ELECTRICAL PRODUCTS

نشاط المنشأة : صناعة لوحات توزيع كهربائية ضغط منخفض و كشافات اضاءة وأدوات كهربائية وأعمدة انارة بالطاقة الشمسية وحدات توليد الطاقة بالخلايا الشمسية : لوحات التوزيع الكهربائية بالمفاتيح والقواطع

عنوان المنشأة : المنطقة الصناعية A3 قطعة رقم 41 ، 75 مدينة العاشر من رمضان

رقم الملف : 248

حررت هذه الشهادة طبقاً للقانون رقم ٧٠ لسنة ٢٠١٩
وقرار رئيس الوزراء رقم ٢٣٤٩ لسنة ٢٠١٩ وبناء على طلب المنشأة .

تنتهى فى : 2024/12/31

المدير التنفيذى

03586

المقر الرئيسى: القاهرة ١١٩٥ كورنيش النيل بجوار هيئة الكتاب صندوق بريد (١) السبتية رقم بريدي ١١٦٢٤ ت: ٢٥٧٧٨٠٦٠ ٠٢ فاكس: ٢٥٧٧٠٨٨٩ ٠٢
فرع شريف : ١٣ ش شريف - الدور الخامس - وسط البلد ت: ٢٣٩٢١٢٣٨ ف: ٢٣٩١٨٠٩٩ موبايل: ٠١٠٦٦٦٠٢٩٤٦
فرع الإسكندرية : ٩شارع اللواء محمود حمدي خطاب متفرع من شارع فؤاد امام مدرسة القومية ت: ٠٣٣٩٠٠٤٤٧ موبايل: ٠١٠١٩١١١٨٩١
فرع أكتوبر : المحور المجاورة الخامسة - عمارة ٢٥ - الدور الرابع - شقة ٨ - أمام عمارات سيتي ستارز [illegible] موبايل: ٠١٠٠٣٦٥٥٤٠
فرع العاشر : المنطقة الأولى - عمارة رقم ٣ - الحي الأول - أمام الإدارة التعليمية - العاشر من رمضان ت: ٠٥٥ ٤٣٦٤٣٦٩ موبايل: ٠١٠٠٠٨٢٢٥٠٢

E-mail: info@ceiegypt.org Web: www.ceiegypt.com

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وزارة التجارة و الصناعة
اتحاد الصناعات المصرية

رقم مسلسل Tend-3511

شهادة
استيفاء نسبة المكون المصرى

اسم المنشأة:- سيجا أم لمنتجات كهربائية
العنوان:- قطعة رقم 41 - 75 - المنطقة الصناعية أ 3 - العاشر من رمضان
رقم القيد فى السجل الصناعى:- 0918042701027984

نوع النشاط:- الصناعات الهندسية
اسم المنتج الصناعى:- تصنيع وتجميع لوحات جهد متوسط 12 ، 24 ك فولت
نسبة المكون الصناعى المصرى المعتمدة من هيئة التنمية الصناعية:- 60.59 %
يشهد اتحاد الصناعات المصرية ان المنتج المصرى: تصنيع وتجميع لوحات جهد متوسط 12 ، 24 ك فولت هى 60.59 % ومستوفى نسبة المكون الصناعى المصرى وفقا لاحكام القانون رقم (5) لسنة 2015 بشأن تفضيل المنتجات المصرية فى العقود الحكومية وتستخدم للتقدم للمناقصات والممارسات الحكومية

تاريخ إصدار الشهادة 16-07-2023 تاريخ إنهاء سريان الشهادة 15-07-2024

خاتم شعار الجمهورية

المدير التنفيذى - اتحاد الصناعات المصرية
الأسم: د./ خالد عبد العظيم



وزارة التجارة و الصناعة
اتحاد الصناعات المصرية

رقم مسلسل Tend-6691

شهادة
استيفاء نسبة المكون المصرى

اسم المنشأة:- سيجا أم لمنتجات كهربائية
العنوان:- قطعة رقم 41 - 75 - المنطقة الصناعية أ 3 - العاشر من رمضان
رقم القيد فى السجل الصناعى:- 0918042701027984

نوع النشاط:- الصناعات الهندسية
اسم المنتج الصناعى:- كبائن - اكشاك كهرباء
نسبة المكون الصناعى المصرى المعتمدة من هيئة التنمية الصناعية:- 64.05 %
يشهد اتحاد الصناعات المصرية ان المنتج المصرى: كبائن - اكشاك كهرباء هى 64.05 % ومستوفى نسبة المكون الصناعى المصرى وفقا لاحكام القانون رقم (5) لسنة 2015 بشأن تفضيل المنتجات المصرية فى العقود الحكومية وتستخدم للتقدم للمناقصات والممارسات الحكومية

تاريخ إصدار الشهادة 17-08-2023 تاريخ إنهاء سريان الشهادة 16-08-2024

خاتم شعار الجمهورية

المدير التنفيذى - اتحاد الصناعات المصرية
الأسم: د./ خالد عبد العظيم

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وزارة التجارة والصناعة
اتحاد الصناعات المصرية

رقم مسلسل(Tend-3573)

شهادة
استيفاء نسبة المكون المصرى

اسم المنشاة:- سيجا أم لمنتجات كهربائية

العنوان:- قطعة رقم 41 - 75 - المنطقة الصناعية أ 3 - العاشر من رمضان

رقم القيد فى السجل الصناعى 31340

نوع النشاط:- الهندسية

اسم المنتج الصناعى :- تصنيع وتجميع لوحات توزيع ضغط منخفض للاغراض الصناعية حتى 4000 امبير لمحطات المياة والصرف الصحي وشركات البترول والغ

نسبة المكون الصناعى المصرى المعتمدة من هيئة التنمية الصناعية 49.70%

يشهد اتحاد الصناعات المصرية ان المنتج الصناعى ، تصنيع وتجميع لوحات توزيع ضغط منخفض للاغراض الصناعية حتى 4000 امبير لمحطا
مستوفى نسبة المكون الصناعى المصرى وفقاً لأحكام القانون رقم (5) لسنة 2015 بشأن تفضيل المنتجات المصرية فى العقود الحكومية

تاريخ إصدار الشهادة 10-08-2020 تاريخ إنهاء سريان الشهادة 09-08-2021

خاتم شعار الجمهورية

المدير التنفيذى-اتحاد الصناعات المصرى
الأسم:- د : خالد عبد العظيم
التوقيع :-



وزارة التجارة والصناعة
اتحاد الصناعات المصرية

رقم مسلسل(Tend-3548)

شهادة
استيفاء نسبة المكون المصرى

اسم المنشاة:- سيجا أم لمنتجات كهربائية

العنوان:- قطعة رقم 41 - 75 - المنطقة الصناعية أ 3 - العاشر من رمضان

رقم القيد فى السجل الصناعى 31340

نوع النشاط:- الهندسية

اسم المنتج الصناعى :- مسبوكات الومنيوم متنوعه بالحقن (كشاف شوارع ليد قدرات (50 ، 100 ، 150 ، 200 ، 400) وات

نسبة المكون الصناعى المصرى المعتمدة من هيئة التنمية الصناعية 76.66%

يشهد اتحاد الصناعات المصرية ان المنتج الصناعى ، مسبوكات الومنيوم متنوعه بالحقن (كشاف شوارع ليد قدرات (50 ، 100 ، 150 ، 200 ، (
مستوفى نسبة المكون الصناعى المصرى وفقاً لأحكام القانون رقم (5) لسنة 2015 بشأن تفضيل المنتجات المصرية فى العقود الحكومية

تاريخ إصدار الشهادة 29-07-2020 تاريخ إنهاء سريان الشهادة 28-07-2021

خاتم شعار الجمهورية

المدير التنفيذى-اتحاد الصناعات المصرى
الأسم:- د : خالد عبد العظيم
التوقيع :-

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Ministry of Commerce and Industry



New & Renewable Energy Authority
هيئة تنمية واستخدام الطاقة الجديدة والمتجددة
NREA

وزارة الكهرباء والطاقة المتجددة
Ministry of Electricity and Renewable Energy

SILVER CERTIFICATE

CERTIFICATE

كود الشركة: ٠٦٦

تشهد هيئة تنمية واستخدام الطاقة الجديدة والمتجددة

أن شركة/ سيجا إم للمنتجات الكهربائية SEGA.M.ELCTRICAL PRODUCTS سجل تجاري رقم (١٦٢٩٣٢)

حاصلة على شهادة تأهيل "فضية" لإنشاء محطات طاقة شمسية حتى قدرة (500) كيلو وات كحد أقصى.

مدة التأهيل ثلاث سنوات سارية من ١ /٧ /٢٠٢٤ إلى ٣٠/ ٦ / ٢٠٢٧

وهذه شهادة من الهيئة دون أدنى مسئولية عليها قبل الغير

الرئيس التنفيذي

دكتور مهندس/ محمد مصطفى الخياط

"يحق للهيئة إلغاء أو تجميد الشهادة حال مخالفة أي من اشتراطات التأهيل التي أقرتها الهيئة والتي على أساسها تم منح هذه الشهادة"



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(+2) 0100 32 000 63
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marketing@sega-m.com
www.sega-m.com

Commercial Division (Lighting)

Nasr City branch Cairo Al-Nuzha investment project in Ard Al-Golf area Building(Milsa) No. 6 Office No. 1-2-3
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Sales.lighting@sega-m.com
monaqsat@sega-m.com