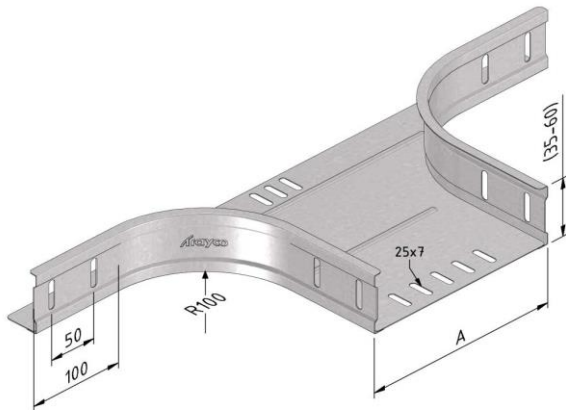


## Technical specifications

### CT-BR-\_ (Cable Tray Branch)



Finishing:		Ultra galva						
Product	Number	Height (mm)	Width (mm)	Length (mm)	Dim A (mm)	Fmax (kN)	Unit	Packaging (unit)
CT60-BR-050-UG	19804	60	50	0	50		ST	1
CT60-BR-075-UG	19805	60	75	0	75		ST	1
CT60-BR-100-UG	19806	60	100	0	100		ST	1
CT60-BR-150-UG	19807	60	150	0	150		ST	1
CT60-BR-200-UG	19808	60	200	0	200		ST	1
CT60-BR-300-UG	19809	60	300	0	300		ST	1
CT60-BR-400-UG	19810	60	400	0	400		ST	1
CT60-BR-500-UG	19811	60	500	0	500		ST	1
CT60-BR-600-UG	19812	60	600	0	600		ST	1

Finishing:		Pre-galvanized						
Product	Number	Height (mm)	Width (mm)	Length (mm)	Dim A (mm)	Fmax (kN)	Unit	Packaging (unit)
CT110-BR-150-PG	11951	110	150	0	150		ST	1
CT110-BR-200-PG	11952	110	200	0	200		ST	1
CT110-BR-300-PG	11953	110	300	0	300		ST	1
CT110-BR-400-PG	11954	110	400	0	400		ST	1
CT110-BR-500-PG	11955	110	500	0	500		ST	1
CT35-BR-050-PG	12130	35	50	0	50		ST	1
CT35-BR-075-PG	12131	35	75	0	75		ST	1
CT35-BR-100-PG	12132	35	100	0	100		ST	1
CT35-BR-150-PG	12133	35	150	0	150		ST	1
CT35-BR-200-PG	12134	35	200	0	200		ST	1
CT35-BR-300-PG	12135	35	300	0	300		ST	1
CT35-BR-400-PG	16337	35	400	0	400		ST	1
CT60-BR-050-PG	10080	60	50	0	50		ST	1
CT60-BR-075-PG	10081	60	75	0	75		ST	1
CT60-BR-100-PG	10082	60	100	0	100		ST	1
CT60-BR-150-PG	10083	60	150	0	150		ST	1
CT60-BR-200-PG	10084	60	200	0	200		ST	1
CT60-BR-300-PG	10085	60	300	0	300		ST	1
CT60-BR-400-PG	10086	60	400	0	400		ST	1
CT60-BR-500-PG	10087	60	500	0	500		ST	1
CT60-BR-600-PG	10088	60	600	0	600		ST	1

Finishing:		Duplex						
Product	Number	Height (mm)	Width (mm)	Length (mm)	Dim A (mm)	Fmax (kN)	Unit	Packaging (unit)
CT60-BR-050-DU	19909	60	50	0	50		ST	1
CT60-BR-075-DU	19910	60	75	0	75		ST	1
CT60-BR-100-DU	19911	60	100	0	100		ST	1
CT60-BR-150-DU	19912	60	150	0	150		ST	1
CT60-BR-200-DU	19913	60	200	0	200		ST	1
CT60-BR-300-DU	19914	60	300	0	300		ST	1
CT60-BR-400-DU	19915	60	400	0	400		ST	1
CT60-BR-500-DU	19916	60	500	0	500		ST	1
CT60-BR-600-DU	19917	60	600	0	600		ST	1

Finishing:		Dipped galvanized						
Product	Number	Height (mm)	Width (mm)	Length (mm)	Dim A (mm)	Fmax (kN)	Unit	Packaging (unit)
CT110-BR-150-DG	12040	110	150	0	150		ST	1
CT110-BR-200-DG	12041	110	200	0	200		ST	1
CT110-BR-300-DG	12042	110	300	0	300		ST	1
CT110-BR-400-DG	12043	110	400	0	400		ST	1
CT110-BR-500-DG	12044	110	500	0	500		ST	1
CT35-BR-050-DG	12180	35	50	0	50		ST	1
CT35-BR-075-DG	12181	35	75	0	75		ST	1
CT35-BR-100-DG	12182	35	100	0	100		ST	1
CT35-BR-150-DG	12183	35	150	0	150		ST	1
CT35-BR-200-DG	12184	35	200	0	200		ST	1
CT35-BR-300-DG	12185	35	300	0	300		ST	1
CT35-BR-400-DG	16338	35	400	0	400		ST	1

Finishing:		Coated						
Product	Number	Height (mm)	Width (mm)	Length (mm)	Dim A (mm)	Fmax (kN)	Unit	Packaging (unit)
CT110-BR-150-CO	11888	110	150	0	150		ST	1
CT110-BR-200-CO	11889	110	200	0	200		ST	1
CT110-BR-300-CO	11890	110	300	0	300		ST	1
CT110-BR-400-CO	11891	110	400	0	400		ST	1
CT110-BR-500-CO	11892	110	500	0	500		ST	1
CT35-BR-050-CO	12230	35	50	0	50		ST	1
CT35-BR-075-CO	12231	35	75	0	75		ST	1
CT35-BR-100-CO	12232	35	100	0	100		ST	1
CT35-BR-150-CO	12233	35	150	0	150		ST	1
CT35-BR-200-CO	12234	35	200	0	200		ST	1
CT35-BR-300-CO	12235	35	300	0	300		ST	1
CT35-BR-400-CO	16339	35	400	0	400		ST	1
CT60-BR-050-CO	10732	60	50	0	50		ST	1
CT60-BR-075-CO	10733	60	75	0	75		ST	1
CT60-BR-100-CO	10734	60	100	0	100		ST	1
CT60-BR-150-CO	10735	60	150	0	150		ST	1
CT60-BR-200-CO	10736	60	200	0	200		ST	1
CT60-BR-300-CO	10737	60	300	0	300		ST	1
CT60-BR-400-CO	10738	60	400	0	400		ST	1
CT60-BR-500-CO	10739	60	500	0	500		ST	1
CT60-BR-600-CO	10740	60	600	0	600		ST	1

Mounting instructions:

-

Load capacity:

Standard: -

Max. load: -

Load diagram: -

#### Information:

Coupler: BN06-10

Equipotential bonding: IEC61537

EC declaration: EC directive 2014/35/EU (Low voltage) as modified by directive 93/68/EEC (CE marking)

#### UG

##### ULTRA GALVA (UG)

is a high-performant metallic coating which offers an optimum surface protection in a wide variety of aggressive and demanding environments, indoor as well as outdoor. The unique alloy of small amounts of magnesium and/or aluminium in the zinc bath provides ULTRA protection with a self-healing effect. Whilst zinc is essential for cathodic protection, magnesium prevents red rust. The passivation layer that comes on top, creates a seal that slows down the first traces of white rust.

ULTRA GALVA offers a number of advantages compared to the traditional hot dip finishing.

- the passivation layer offers a superior protection level. Hence, ULTRA GALVA, being cathodical, is self-healing in case of scratches, edges or perforations. Compared to hot dip, the articles remain very straight, no deflections appear nor flux or dull spots/ashes.
  - ULTRA GALVA can conveniently be cold-processed without any risk on flakes because of the perfect adhesion of the coating to the metal.
  - No zinc pins appear which enables one to install cables in a fast way avoiding any risk on damages to cables nor injuries of workers.
  - Thanks to the longer life span, ULTRA GALVA does not require ongoing maintenance nor post painting actions.
  - Three times less zinc is being applied compared to hot dip finishing. There is hence a lower impact on natural resources as well as less pollution. On top, its production process generates less CO<sub>2</sub> emission and ULTRA GALVA is 100% recyclable.
- ULTRA GALVA is hence a very valuable environmentally friendly alternative for the traditional stainless steel and hot-dip finishing !

#### PG

##### Senzimir galvanized (EN 10143) PG (pre-galvanized)

Products made of Senzimir (pre-galvanized) or continuous hot-dip galvanized steel sheet and coils are mostly used wherever limited chemical contamination is likely, for example, in offices, industrial buildings, covered parking lots, etc.

Characteristic of this steel type is that – prior to mechanical deformation – it is given a zinc coating by means of a continuous dipping process. This zinc coating is easily deformed. A cathodic action occurs on cut surfaces (up to 1.5mm) that protects against oxidation.

First, the steel is chemical cleaned and roughened in order to achieve a good bond. After the dipping process, the surplus zinc is blown off and one obtains an extra passivating coat (an ultra-thin protective coat) to prevent oxidation of the zinc coating (white rust). The coating thickness is usually expressed in g/m<sup>2</sup>. The most deployed type of Senzimir steel is Z 275 = 275g/m<sup>2</sup> (weighed on both sides), this corresponds to 18-20 µm (micron). Senzimir galvanized steel sourced from modern galvanizing lines has, in general, a uniform, shiny appearance. The previous, common flowery surface is scarcely seen these days. This effect is obtained under the influence of lead but has no effect on the quality of the coating. The use of lead was banned due to the ever more stringent environmental standards.

#### DU

##### Duplex coats DU

For applications where a very high corrosion resistance is required, such as the petrochemical industry or maritime applications, we advise our customers to use a duplex coating. A duplex coating is composed of a hot-dip galvanizing, followed by a powder coating (in two coats or one).

Research has showed that galvanized parts with an (epoxy) powder coating, afford corrosion resistance that is up to 2.5 times higher than the sum of the wear life of both systems separately.

For example: the wear life of hot-dip galvanizing is 10 years while that of an epoxy coating is 5 years. So, in combination, this gives a wear life of up to 37 years. Usually, the added cost of a duplex coating is easily outweighed by the cost price of regularly recurring maintenance every few years. ( see underneath 'hot-dip galvanizing').

## DG

### Hot-dip galvanized (EN ISO 1461) DG (dipped-galvanised)

Whenever cable support systems are exposed to the elements and/or caustic substances (such as petrochemical applications), they are given an additional treatment in the form of hot-dip galvanizing.

Hot-dip galvanizing is a materials science process designed to render the steel non-corroding. If this coating is breached, the zinc will act as a sacrificial anode, so that the iron is protected by the zinc (aka cathodic protection). During galvanization, three alloys are formed: an iron-zinc alloy, a zinc-iron alloy and also a zinc alloy. The pre-treatment of the steel is crucially important in order to achieve a good bond.

The following process steps are involved: degreasing, rinsing, pickling, re-rinsing, fluxing, drying and hot-dipping. The coating thickness depends on the steel composition, the material thickness and the time spent in the zinc bath. In the galvanizing standard NEN-EN-ISO 1461, the minimum coating thickness are prescribed (as shown in following overview), just as the zinc shrinkage per year which will depend on environmental factors (see table entitled 'Corrosion classes'). In addition, the zinc coating forms an excellent substrate for other post-treatments, such as applying a powder coating and coats of paint (better known as the duplex system).

An added advantage of hot-dip galvanizing is that along the edges and pointy bits, where objects are usually extra susceptible to corrosion, the zinc coating is thicker because of the behaviour of the liquid.

Minimum thicknesses of the zinc coating according to ISO 1461

- Using the hot-dip method

Material thickness  $\geq 6$  mm = min. zinc coating thickness (average) 85 $\mu$ m

Material thickness  $\geq 3$  mm to  $< 6$  mm = min. zinc coating thickness (average) 70 $\mu$ m

Material thickness  $\geq 1,5$  mm to  $< 3$  mm = min. zinc coating thickness (average) 55 $\mu$ m

Material thickness  $< 1,5$  mm = min. zinc coating thickness (average) 45 $\mu$ m

- Using the drum method

Material thickness  $\geq 3$  mm = min. zinc coating thickness (average) 55 $\mu$ m

Material thickness  $< 3$  mm = min. zinc coating thickness (average) 45 $\mu$ m

## CO

### Polyester powder coating CO (coated)

Polyester coats will be used in moderate environments where the aesthetic aspect and sustainability must go hand in hand. The distinctive property of a polyester coating is its resistance to discoloration due to sunlight.

If used in a harsher environment, it is strongly recommended to apply an epoxy coating; this is less porous and therefore more resistant to chemicals. The disadvantage of an epoxy coating, however, is the rapid discoloration. If you want the best of both worlds, use an epoxy primer with a polyester top coat.

Just as with all the treatment techniques mentioned above, a thorough pre-treatment is crucial here too.

Depending on the base material, one will, in this case, degrease, rinse, pickle, rinse again, apply a conversion coat (e.g. chrome), rinse again, rinse with demi-water and/or dry.

Field of application according to resistance against corrosion:

**Corrosion classes according EN ISO 12994**

Corrosion class	Atmospheric corrosion	Indoor environment	Outdoor environment	Surface treatments
C1	<0,1µm	Heated buildings with neutral atmospheres: offices, shops, schools, hotels.		Electro-galvanised (EG) EN ISO 2081
C2	0,1 - 0,7µm	Unheated buildings where condensation may occur: sports halls, warehouses, shops.	Rural areas. Atmosphere with low impurities.	Pre-galvanised (PG) EN 10327 – EN 10143
C3	0,7 - 2µm	Production facilities with high moisture levels and some air impurities due to industrial processes: production plants.	City and industrial atmosphere, some impurities, coastal areas with low salt loads.	Dipped-galvanised (DG) EN ISO 1461
C4	2 - 4µm	Production facilities with high moisture levels and high air impurities due to industrial processes: swimming pools, Chemical industry.	Industrial areas and coastal areas with low salt load.	Dipped-galvanised (DG) EN ISO 1461 Polyester coating (CO) EN ISO 12944
C5-I	4 - 8µm	Polyester coating (CO)	Industrial areas with high moisture level and aggressive atmosphere.	Duplex (DU) (Dipped galvanised + Polyester coating) Stainless steel AISI 316L
C5-M	4 - 8µm	EN ISO 12944	Coastal or offshore areas with salt load.	Duplex (DU) (Dipped galvanised + Polyester coating)

**Classification for resistance against corrosion according to IEC61537**

Class	Reference- Material and Finish
0(a)	None
1	Electroplated to a minimum thickness of 5 µm
2	Electroplated to a minimum thickness of 12 µm
3	Pre-galvanised to grade 275 to EN 10327 and EN 10326
4	Pre-galvanised to grade 350 to EN 10327 and EN 10326
5	Post-galvanised to a zinc mean coating thickness (minimum) of 45 µm according to ISO 1461 for zinc thickness only
6	Post-galvanised to a zinc mean coating thickness (minimum) of 55 µm according to ISO 1461 for zinc thickness only
7	Post-galvanised to a zinc mean coating thickness (minimum) of 70 µm according to ISO 1461 for zinc thickness only
8	Post-galvanised to a zinc mean coating thickness (minimum) of 85 µm according to ISO 1461 for zinc thickness only (usually high silicon steel)
9A	Stainless steel manufactured to ASTM: A 240/A 240M – 95a designation S30400 or EN 10088 grade 1-4301 without a post-treatment (b)
9B	Stainless steel manufactured to ASTM: A 240/A 240M – 95a designation S31603 or EN 10088 grade 1-4404 without a post-treatment (b)
9C	Stainless steel manufactured to ASTM: A 240/A 240M – 95a designation S30400 or EN 10088 grade 1-4301 with a post-treatment (b)
9D	Stainless steel manufactured to ASTM: A 240/A 240M – 95a designation S31603 or EN 10088 grade 1-4404 with a post-treatment (b)
(a) For materials which have no declared corrosion resistance classification.	
(b) The post-treatment process is used to improve the protection against crevice crack corrosion and the contamination by other steels.	