Technical specifications

SP41-42 (Supporting Profile)
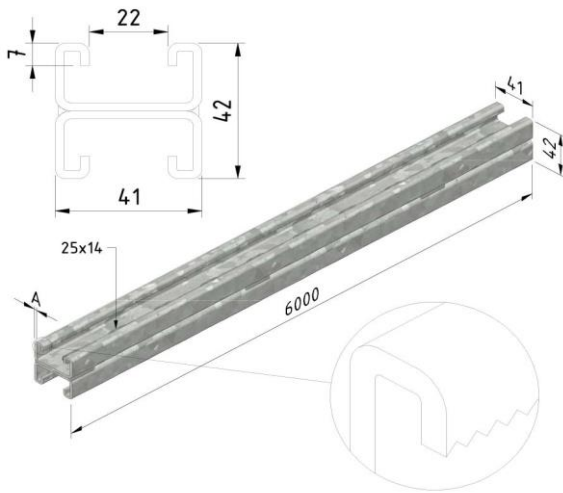
Finishing:	Dipped galvanized							
Product	Number	Height (mm)	Width (mm)	Length (mm)	Dim A (mm)	Fmax (kN)	Unit	Packaging (unit)
SP41-42-25-6DG	19573	41	42	6000	2,5		M	6

Mounting instructions:

-

Load capacity:

Standard: -

Max. load: -

Load diagram: -

Information:

Coupler: CP41

Equipotential bonding: IEC61537

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

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 sacrifcial 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, fl uxing, 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 ≥ 6 mm = min. zinc coating thickness (average) 85µm

Material thickness ≥ 3 mm to < 6 mm = min. zinc coating thickness (average) 70µm

Material thickness ≥ 1,5 mm to < 3 mm = min. zinc coating thickness (average) 55µm

Material thickness < 1,5 mm = min. zinc coating thickness (average) 45µm

- Using the drum method

Material thickness ≥ 3 mm = min. zinc coating thickness (average) 55µm

Material thickness < 3 mm = min. zinc coating thickness (average) 45µm

Field of application according to resistance against corrosion:
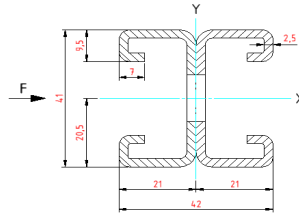
Corrosion classes according EN ISO 12994

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)

Quality Registration
Technical specification

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.	

SP41-42-25 (point load, support two points)

Breaking stress St37	370 N/mm^2
E	210000 N/mm^2
sb (allowed bending stress St37)	160 N/mm^2
Ix	108456 mm^4
Iy	64153 mm^4
ex	21 mm
ey	20,5 mm
Minimum safety factor	2 (static load)
Wx	5291 mm^3
Wy	3055 mm^3
Mb (bending moment)	488 Nm

Maximum deflection / force calculated based on max. allowed bending stress

Support L (mm)	Force F(N)	Deflection f (mm)
250	7808	0,19
500	3904	0,75
1000	1952	3,02
1500	1301	6,79
2000	976	12,07
2500	780	18,85
3000	650	27,14
3500	557	36,93
4000	488	48,30
4500	433	61,02
5000	390	75,39
5500	354	91,08
6000	325	108,56

SP41-42-25 (distributed load, support 2 points)

Breaking stress St37	370 N/mm^2
E	210000 N/mm^2
sb (allowed bending stress St37)	160 N/mm^2
Ix	108456 mm^4
Iy	64153 mm^4
ex	21 mm
ey	20,5 mm
Minimum safety factor	2 (static load)
Wx	5291 mm^3
Wy	3055 mm^3
Mb (bending moment)	488 Nm

Maximum deflection / force calculated based on max. allowed bending stress

Support L (mm)	Force F(N)	Deflection f (mm)
250	15616	0,24
500	7808	0,94
1000	3904	3,77
1500	2602	8,49
2000	1952	15,09
2500	1561	23,57
3000	1301	33,95
3500	1115	46,20
4000	976	60,37
4500	867	76,36
5000	780	94,23
5500	709	114,01
6000	650	135,70