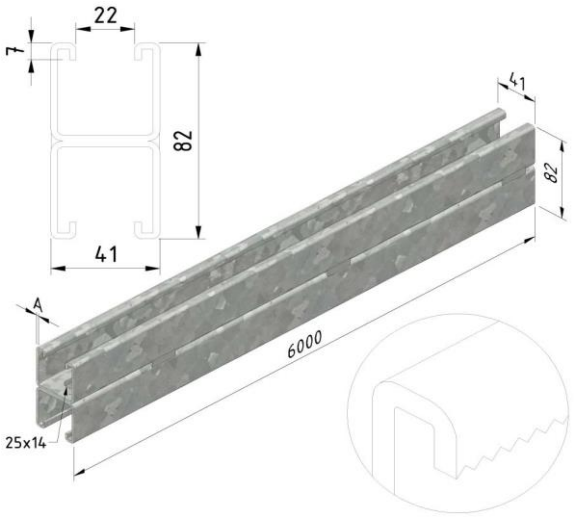
Technical specifications

SP41-82 (Supporting Profile)



Finishing:	Duplex							
Product	Number	Height (mm)	Width (mm)	Length (mm)	Dim A (mm)	Fmax (kN)	Unit	Packaging (unit)
SP41-82-25-6DU	12337	41	82	6000	2,5		M	6

Finishing:	Dipped galvanized							
Product	Number	Height (mm)	Width (mm)	Length (mm)	Dim A (mm)	Fmax (kN)	Unit	Packaging (unit)
SP41-82-25-6DG	12338	41	82	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)

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 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)**

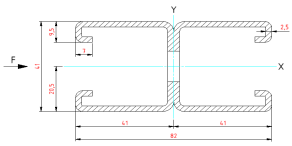
Classification for resistance against corrosion according to IEC61537

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.

SP41-82-25 (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	182532	mm^4
Iy	375311	mm^4
ex	41	mm
ey	20,5	mm
Minimum safety factor	2	(static load)
Wx	8904	mm^3
Wy	9154	mm^3
Mb (bending moment)	1464	Nm



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

Support L (mm)	Force F(N)	Deflection f (mm)
250	23424	0,20
500	11712	0,80
1000	5856	3,18
1500	3904	7,16
2000	2928	12,73
2500	2342	19,89
3000	1952	28,64
3500	1673	38,99
4000	1464	50,92
4500	1301	64,43
5000	1171	79,55
5500	1064	96,21
6000	976	114,58

SP41-82-25 (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	182532	mm^4
Iy	375311	mm^4
ex	41	mm
ey	20,5	mm
Minimum safety factor	2	(static load)
Wx	8904	mm^3
Wy	9154	mm^3
Mb (bending moment)	1464	Nm

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

Support L (mm)	Force F(N)	Deflection f (mm)
250	46848	0,12
500	23424	0,48
1000	11712	1,93
1500	7808	4,35
2000	5856	7,74
2500	4684	12,09
3000	3904	17,41
3500	3346	23,70
4000	2928	30,96
4500	2602	39,17
5000	2342	48,36
5500	2129	58,52
6000	1952	69,66