

Docol 700LA

General Product Description

The Docol 700LA steels are high-strength low-alloy steels that offer consistent properties for modern, rapid production methods. The Docol 700LA steels are made for cold forming of stronger and lighter structures. Typical applications include components and parts in demanding load-bearing structures such as chassis. Docol HR700LA-UC can after agreement be adapted and delivered as dual certified with S700MC according to EN 10149-2:2010.

Dimension Range

Hot rolled / UC: thickness 2.00-6.00 mm, width up to 1600 mm.

Hot rolled / EG: thickness 2.00-3.00 mm, width up to 1360 mm.

Hot rolled / GI: thickness 2.00-4.00 mm, width up to 1400 mm.

Slit strip and cut to length sheets are available upon request.

Grade and coating specific restrictions on available dimensions may occur.

Mechanical Properties

Steel grade	Standard	Coating	Test direction	Yield strength R _{p0.2} (MPa)	Tensile strength R _m (MPa)	Elongation A ₈₀ ¹⁾ (min %)	Elongation A ₅ ²⁾ (min %)	Min. inner bending radius for 90° ³⁾
Docol HR 700LA	VDA 239-100:2016	UC, EG	L	700 - 850	750 - 950	10	13	1.2 x t
Docol HR 700LA	VDA 239-100:2016	GI*	L	700 - 850	750 - 950	10 ⁴⁾	-	1.2 x t

The testing of mechanical properties of electro galvanized products is conducted without coating.

* Available upon request.

¹⁾ A₈₀ value applies for thicknesses < 3.00 mm.

²⁾ A₅ value applies for thicknesses ≥ 3.00 mm.

³⁾ The value apply to steel when bending angle is 90°. In some cases tight bending radius may cause micro-cracking of the coating in the bend area. Where design permits, users are encouraged to employ larger radius.

⁴⁾ For GI coating the minimum value for elongation is reduced by 1 unit.

Chemical Composition (Ladle analysis)

Steel grade	Coating	C (max %)	Si (max %)	Mn (max %)	P (max %)	S (max %)	Al (min %)	Ti (max %)	Nb (max %)	Cu (max %)
Docol HR 700LA	UC, EG, GI	0.12	0.60	2.10	0.030	0.025	0.015	0.20	0.10	0.20

Tolerances

Hot rolled (UC, EG): Tolerances in accordance to EN10051.

Hot-dip galvanized (GI): Tolerances in accordance to EN10143.

Customized dimensional and shape tolerances are available upon request.

Coatings and Surface Treatments

Coatings

The metal coating options for Docol products include:

Hot-dip zinc coating (GI) consists almost entirely of zinc (>99%). It is lead free, resulting in a small zinc spangle size. The coating provides good corrosion protection.

Electrogalvanized coating (EG) is applied continuously by electro deposition. The coating consists of zinc (>99%). Electrogalvanized steel is characterized by its excellent surface quality and uniform coating thickness.

Grade specific availability of metal coatings for Docol products is given in the Mechanical properties table (Coating).

Coating type	Coating class	Standard	Closest in EN10346, informative	Coating mass per side, Single spot test (g/m ²)	Thickness per side, informative (µm)
GI	40/40	VDA239-100	Z100	40 - 60 ¹⁾	5,6 - 8,5
GI	50/50	VDA239-100		50 - 70 ¹⁾	7,0 - 9,9
GI	60/60	VDA239-100	Z140	60 - 90	8,5 - 12,7
GI	70/70	VDA239-100		70 - 100	9,9 - 14,1
GI	85/85	VDA239-100		85 - 115	12,0 - 16,2
GI	115/115	VDA239-100	Z275	115 - 155	16,2 - 21,8
EG	ZE25/25	EN 10152	-	12 -	1,7 -
EG	ZE50/50	EN 10152	-	29 -	4,1 -
EG	ZE75/75	EN 10152	-	47 -	6,6 -
EG	ZE100/100	EN 10152	-	65 -	9,1 -

¹⁾ For hot-dip galvanized (GI) hot rolled grades, the coating mass tolerance is increased to 30 g/m² by increasing the upper limit.

Docol metal coated products are available with surface quality for unexposed applications.

In addition to these coating masses, OEM specific coatings and single sided EG coatings are available upon request.

Surface Treatments

Uncoated (UC): available as oiled

Hot-dip galvanized (GI): available as oiled and/or chemically passivated

Electrogalvanized (EG): available as oiled and/or chemically passivated or phosphated

All surface treatments are in accordance with RoHS directive (2011/65/EU) and do not contain Chromium VI (Cr⁶⁺). Surface treatments provide only temporary surface protection during transportation and storage. In order to avoid corrosion damages, care must be taken to keep the products dry during transportation and storage. If they become wet, they must be separated and situated so that they are dried quickly.

Fabrication and Other Recommendations

For information concerning fabrication, see SSAB's brochures on www.ssab.com or consult Tech Support, techsupport@ssab.com.

Appropriate health and safety precautions must be taken when bending, welding, cutting, grinding or otherwise working on the product.

Contact Information

www.ssab.com/contact