

## 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

Docol HR700LA / UC&EG: thickness 2.00-6.00 mm, width up to 1530mm, length up to 16000 mm.

Docol HR700LA / GI: thickness 2.00-2.50 mm, width up to 1040 mm, length up to 6000 mm.

Slitting to narrow coils and cutting to sheets are available upon request.

### Mechanical Properties

Steelgrade	Standards	Coating	Yield strength $R_{p0.2}$ (MPa)	Tensile strength $R_m$ (MPa)	Elongation $A_{80}$ (min %)	Elongation $A_5$ (min %)	Min. inner bending radius for 90 °
Docol HR700LA	VDA 239-100:2016	UC, EG	700- 850	750- 950	10	13	1.2xt
Docol HR700LA	VDA 239-100:2016	GI	700- 850	750- 950	10	-	1.0xt <sup>1)</sup>

The mechanical properties are tested longitudinal to the rolling direction.

1) 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.

### Chemical Composition

Steel-grade	Product Type	C (max %)	Si (max %)	Mn (max %)	P (max %)	S (max %)	Al (min %)	Ti (max %)	Nb (max %)	Nb+Ti (max %)	Cu (max %)
Docol HR 700LA	UC, EG	0.12	0.60	2.10	0.030	0.025	0.015	0.20	0.10	-	0.20
Docol HR 700LA	Hot dip galvanized	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 metal coated: (GI) Tolerances in accordance to EN10143.

Customized dimensional and shape tolerances are available on request.

### Coatings and surface treatments

#### Coatings

The metal coatings 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 coated Docol products are given in the Mechanical properties table, coating column.

Type	Coating class	Standard	Closest in EN10346, informative	Coating mass per side, Single spot test (g/m <sup>2</sup> )	Thickness per side, informative (μm)	Density (g/cm <sup>3</sup> )	Surface quality (U = unexposed, E = exposed)
GI	40	VDA239-100	Z100	40- 60 (1)	5,6- 8,5	7,1	U
GI	50	VDA239-100		50- 70 (1)	7,0- 9,9	7,1	U
GI	60	VDA239-100	Z140	60- 90	8,5- 12,7	7,1	U
GI	70	VDA239-100		70- 100	9,9- 14,1	7,1	U
GI	85	VDA239-100		85-115	12,0- 16,2	7,1	U
GI	115	VDA239-100	Z275	115-155	16,2- 21,8	7,1	U
EG (2)	ZE25/25	EN 10152	-	12-	1,7-	7,14	U
EG (2)	ZE50/50	EN 10152	-	29-	4,1-	7,14	U
EG (2)	ZE75/75	EN 10152	-	47-	6,6-	7,14	U
EG (2)	ZE100/100	EN 10152	-	65-	9,1-	7,14	U

(1) For hot-dipped (GI) hot rolled (HR) grades, the coating mass tolerance is increased to 30 g/m<sup>2</sup> by increasing the upper limit.

(2) EG products can be supplied with single side coating if agreed up on at the time of order. Such coating are designated ZE25/00, etc.

In addition to these coating masses, asymmetric coatings and OEM coating specifications are available upon request.

### Surface treatments

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.

Surface coating	Available surface treatment
GI	Chemically passivated (C)
GI	Oiled (O)
GI	Chemically passivated and oiled (CO)
GI	Unprotected (U)
EG	Oiled
EG	Chemically passivated
EG	Phosphated
EG	Chemically passivated and oiled
EG	Unprotected
UC (Hot-rolled)	Oiled (Only for pickled steel)
UC (Hot-rolled)	Unprotected

### Fabrication and Other Recommendations

For information concerning fabrication, see SSAB's brochures on [www.ssab.com](http://www.ssab.com) or consult Tech Support, [techsupport@ssab.com](mailto: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](http://www.ssab.com/contact)