

Docol 1500M

General Product Description

A martensitic steel for automotive applications, Docol 1500M allows for increased crashworthiness, lightweight design and cost-efficient production methods for the automotive industry. Docol 1500M is one of the strongest advanced high-strength steels on the market and has become the material of choice for automotive applications such as side impact beams, bumpers and structural components.

Dimension Range

Cold rolled / UC: thickness 0.50-2.10 mm, width up to 1527 mm.

Cold rolled / EG: thickness 0.80-2.00 mm, width up to 1300 mm.

Hot rolled / UC: thickness 2.00-4.00 mm, width up to 1530 mm.

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

Mechanical Properties

Steel grade	Standard	Coating	Test direction	Yield strength R _{p0,2} (MPa)	Tensile strength R _m (MPa)	Elongation A ₈₀ (min %)	Elongation A ₅ (min %)	BH ₂ (min MPa)	Min. inner bending radius for 90° (x t)
Docol CR 1220Y1500T-MS	VDA 239-100:2016	UC, EG	L	1220 - 1520	1500 - 1750	3	-	30	4.0
Docol HR 1220Y1500T-MS	SSAB	UC	L	1220 - 1520	1500 - 1750	3	4	30	4.0

The testing of mechanical properties of electrogalvanized products is conducted without coating.

¹⁾ 3.5xt when using roll forming process according to best practices.

Chemical Composition (Ladle analysis)

Steel grade	Coating	C (max %)	Si (max %)	Mn (max %)	P (max %)	S (max %)	Al (min %)	Nb+Ti (max %)	Cr+Mo (max %)	Cu (max %)	B (max %)
Docol CR 1220Y 1500T-MS	UC, EG	0.28	0.40	1.30	0.020	0.010	0.015	0.10	1.00	0.20	0.010
Docol HR 1220Y 1500T-MS	UC	0.28	1.00	2.00	0.020	0.025	0.010	0.15	1.00	0.20	0.010

Tolerances

Cold rolled (UC, EG): Tolerances in accordance to EN10131.

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

Customized dimension and shape tolerances available upon request.

Following improved flatness tolerances are available for cold rolled products upon request: ¹⁾

Thickness (mm)	Max height ²⁾ (mm)
0.80 - 0.99	8
1.00 - 1.39	7
1.40 - 1.59	6
1.60 - 1.79	5
1.80 - 2.10	4

¹⁾ EG coated martensitic grades are supplied with improved flatness tolerances.

²⁾ Distance from the top surface of the strip normal to a flat surface. Measured with a ruler on sheets of mother coil width and minimum length 1500 mm. Cross bow and coil set excluded.

Coatings and Surface Treatments

Coatings

The metal coating options for Docol products include:

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	Coating mass per side, Single spot test (g/m ²)	Thickness per side, informative (µm)
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 -

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

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