DOCOL®
THE AUTOMOTIVE STEEL

Docol Roll 1000

General Product Description

Docol Roll 1000 is made for cold forming and allows for a tight radius on high-strength, roll-formed applications. Docol Roll 1000 is characterized by both a high yield strength and an improved cleanliness, which allows for a tight radius.

Dimension range

Docol Roll 1000 / UC&EG: thickness 0.50-2.10 mm, width up to 1527 mm, length up to 8500 mm.

Docol Roll 1000 / GI: thickness 0.80-2.00 mm, width up to 1460 mm, length up to 6000 mm. (upon request)

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

Mechanical Properties

Steelgrade	Coating	Yield strength $R_{p0,2}$ (MPa)	Tensile strength R_m (MPa)	Elongation A_{80} (min %)	Min. inner bending radius for 90 °
Docol Roll 1000	UC, EG	850-	1000- 1200	5	-
Docol Roll 1000	GI	850- 1050	1000- 1200	5	2.0xt [1)]

The mechanical properties are tested transverse to the direction of rolling.

1) The minimum bending radius is only valid when roll forming and 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 (%)	Nb+Ti (max %)	Cr+Mo (max %)	B (max %)	Cu (max %)
Docol Roll 1000	UC, EG	0.16	0.40	1.80	0.020	0.010	0.015-	0.10	-	-	-
Docol Roll 1000	Hot dip galvan-ized	0.23	1.00	2.70	0.050	0.010	0.015-1.00	0.15	1.00	0.005	0.20

Tolerances

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

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.

SSAB

Type	Coating class	Standard	Closest in EN10346, informative	Coating mass per side, Single spot test (g/m^2)	Thickness per side, informative (μm)	Density (g/cm^3)	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^2 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 (Cold-rolled)	Oiled
UC (Cold-rolled)	Unprotected

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