Docol 800CP

General Product Description

Docol 800CP is intended for designs where high structural strength and energy absorption are desired, suitable for cold formed safety components and crash-relevant equipment within the automotive and transport industries.

Dimension Range

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

Cold rolled / GI, GA, ZA: thickness 0.80-2.50 mm, width up to 1460 mm.

Hot rolled / UC: thickness 2.00-4.00 mm, width up to 1500 mm.

Hot rolled / GI: thickness 2.00-3.50 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

	Standard	Coating	Test direction	Yield strength $R_{p0.2}$ (MPa)	Tensile strength R_m (MPa)	Elongation A_{80} (min %)	Elongation A_5 (%)	BH_2 (min MPa)	Hole expansion ratio [2] (min %)	Hole expansion ratio [2] (% typical)
Docol CR 570Y780T-CP	VDA 239-100	UC, GI, GA*, ZA*	L	570 - 720	780 - 920	10 [1]	–	30	–	–
Docol HR 660Y760T-CP	VDA 239-100	UC, GI	L	660 - 820	760 - 960	10	13	30	–	–
Docol HR800HER-75	SSAB	UC, GI	L	660 - 820	760 - 960	11	14	30	45	75
Docol HR800HER-100	SSAB	UC	L	660 - 820	760 - 960	12	15	30	65	100
Docol Roll 800	SSAB	UC	T	600 - 750	800 - 950	10	–	–	–	–

*Available upon request.

[1] For GA coatings the minimum elongation value is reduced by 2 units.

[2] HER –ratio is average of three test results out of five tested samples by excluding minimum and maximum results.

Chemical Composition (ladle analysis)

	Coating	C (max %)	Si (max %)	Mn (max %)	P (max %)	S (max %)	Al (%)	Nb+Ti (max %)	Cr+Mo (max %)	B (max %)	Cu (max %)
Docol CR 570Y780T-CP	UC, GI, GA*, ZA*	0.18	1.00	2.50	0.050	0.010	0.015 - 1.00	0.15	1.00	0.005	0.20
Docol HR 660Y760T-CP	UC, GI	0.18	1.00	2.20	0.050	0.010	0.015 - 1.2	0.25	1.00	0.005	0.20
Docol HR800HER-75	UC, GI	0.18	1.00	2.20	0.050	0.010	0.015 - 1.2	0.25	1.00	0.005	0.20
Docol HR800HER-100	UC	0.18	1.00	2.20	0.050	0.010	0.015 - 1.2	0.25	1.00	0.005	0.20
Docol Roll 800	UC	0.16	0.40	1.80	0.020	0.010	From 0.015	0.10	–	–	–

* Available upon request.

Tolerances

Cold rolled (UC): Tolerances in accordance to EN 10131.

Hot rolled (UC): Tolerances in accordance to EN 10051.

Hot-dip galvanized (GI, GA, ZA): Tolerances in accordance to EN 10143.

Customized dimensional and shape tolerances are available upon request.

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.

Galvannealed coating (GA) is a zinc-iron alloy coating having an iron content of approximately 10%. Galvannealed is produced by post-heat treatment in continuous hot-dip coating process. Galvannealed provides excellent resistance weldability and corrosion protection of painted products.

Galfan coating (ZA) is a zinc-aluminium alloy coating having the eutectic composition approximately of 95% Zn and 5% Al. Galfan is produced in continuous hot-dip coating process. Galfan has better anticorrosive and forming properties than conventional hot-dip zinc coating (GI).

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 EN 10346, informative	Coating mass per side, single spot test (g/m^2)	Thickness per side informative (µm)
GI	40/40	VDA 239-100	Z100	40 - 60 [1)]	5.6 - 8.5
GI	50/50	VDA 239-100	—	50 - 70 [1)]	7.0 - 9.9
GI	60/60	VDA 239-100	Z140	60 - 90	8.5 - 12.7
GI	70/70	VDA 239-100	—	70 - 100	9.9 - 14.1
GI	85/85	VDA 239-100	—	85 - 115	12.0 - 16.2
GI	115/115	VDA 239-100	Z275	115 - 155	16.2 - 21.8
GA	40/40	VDA 239-100	ZF100	40 - 60 [1)]	5.6 - 8.5
GA	50/50	VDA 239-100	ZF120	50 - 80	7.0 - 11.3
ZA	95	EN 10346	ZA95	—	7.0 -
ZA	130	EN 10346	ZA130	—	10.0 -
EG	25/25	EN 10152	—	12 -	1.7 -
EG	50/50	EN 10152	—	29 -	4.1 -
EG	75/75	EN 10152	—	47 -	6.6 -
EG	100/100	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.

[1)] For hot-dipped (GI, ZA, GA) hot rolled (HR) grades, the coating mass tolerance is increased to 30 g/m^2 by increasing the upper limit.

Surface Treatments

Uncoated (UC): available as oiled.

Hot-dip galvanized (GI, GA, ZA): 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 (Cr^{6+}). 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.

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

Contact Information

www.ssab.com/contact