

Docol 800DH

General Product Description

Docol 800DH trip assisted dual-phase steels provide improved formability and weldability and are suitable for car safety and structural components. This steel undergoes a special heat treatment producing mainly two-phase structure. Ferrite that imparts unique forming properties represents one phase and martensite that accounts for the strength represents the other phase. Small amount of bainite and retained austenite improves formability further.

Dimension Range

Cold rolled / GI: Thickness 0.8-2.0 mm, width up to 1400 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 %)	n ₄₋₆ (min)	n _{10-20/Ag} (min)	BH ₂ (min MPa)
Docol CR440Y 780T-DH	VDA 239-100:2016	GI	L	440 - 550	780 - 900	18	0.18	0.13	30

Chemical Composition (Ladle analysis)

Steel grade	Coating	C (max %)	Si (max %)	Mn (max %)	P (max %)	S (max %)	Al (%)	Ti+Nb (max %)	Cr+Mo (max %)	B (max %)	Cu (max %)
Docol CR440Y 780T-DH	GI	0.18	0.80	2.50	0.050	0.010	0.015 - 1.0	0.15	1.40	0.005	0.20

Tolerances

Metal coated (GI): Tolerances in accordance to EN10143.

Customized dimensional and shape tolerances available upon 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.

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 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

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

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, ZA,GA	Chemically passivated (C)
GI, ZA,GA	Oiled (O)
GI, ZA,GA	Chemically passivated and oiled (CO)
GI, ZA,GA	Unprotected (U)

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