

Docol PHS 2000

General Product Description

Hardenable cold rolled boron steel for the automotive industry. Docol PHS 2000 steels are optimized for parts and components that are manufactured by both direct and indirect hot stamping. Applications include safety parts such as bumper systems, door impact beams, and B-pillar reinforcements. Yield and tensile strengths below are approximate values after press hardening.

Dimension range

Docol PHS CR2000/ UC: thickness 1.00-3.00 mm, width up to 1500 mm, length up to 8500 mm.

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

Mechanical Properties

Steelgrade	Condition	Thickness (mm)	Coating	Yield Strength R _{p0.2} Typical (MPa)	Tensile strength R _m Typical (MPa)	Elongation A ₈₀ Typical (%)
Docol PHS CR 2000	Rolled	1.00- 3.00	UC	980	1100	4.0
Docol PHS CR 2000	Annealed	1.00- 3.00	UC	-	-	-
Docol PHS CR 2000	Hot stamped*	1.00- 3.00	UC	1400 ¹⁾	2040 ¹⁾	5.0 ¹⁾
Docol PHS CR 2000	Hot stamped and bake hardened*	1.00- 3.00	UC	1530 ¹⁾	1940 ¹⁾	6.0 ¹⁾
Docol PHS CR 2000	Hot stamped**	1.00- 3.00	UC	1453 ¹⁾	2067 ¹⁾	5.0 ¹⁾
Docol PHS CR 2000	Hot stamped and bake hardened**	1.00- 3.00	UC	1573 ¹⁾	2004 ¹⁾	5.3 ¹⁾

The mechanical properties are valid in transverse direction.

* Non shot blasted surface

** Shot blasted surface

1) Indicative value

Chemical Composition

Steelgrade	C (%)	Si (%)	Mn (%)	P (max %)	S (max %)	Cr (max %)	B (%)	Nb+Ti (max %)
Docol PHS CR 2000	0.32- 0.38	0.015- 0.035	1.10- 1.50	0.025	0.010	0.35	0.008- 0.0050	0.2

Tolerances

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

Customized dimensional and shape tolerances are available on request.

Coatings and surface treatments

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
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