



MATERIAL

Swebor Armor™ 440 is a low alloyed ballistic protection steel. Chemical composition paired with its carefully controlled heating, rolling, cooling and heat treatment sequences give Swebor Armor™ 440 it's good combination of hardness, $R_{p_{0,2}}/R_m$ ratio, elongation, weldability, bending, blast and ballistic protection ability. Steel is equivalent to MIL - DTL - 12560 class 4 selection with tighter chemical composition range for better material performance.

APPLICATION

Swebor Armor™ 440 can be used in most protection applications i.e. civil armored vehicles (limousines, SUVs or trucks) and military applications. Swebor Armor™ 440 has good resistance against penetration and blast but still remains easy to handle in the workshop.

CHEMICAL COMPOSITION (in wt.%)

MAX	C	Si	Mn	Cr	Ni	P	S	B	Mo	CE(IIW) / CET**
	0,25	0,60	1,40	1,20	0,50	0,025	0,005	0,002	0,35	0,46 / 0,30

*The steel is grain-refined / All values are in max. wt. %

**Typical for 12 mm thick plate

DELIVERY CONDITION

Quenched + Tempered. Plates can be delivered in raw or sandblasted surface condition.

HARDNESS

The hardness is measured according to DIN EN ISO 6506-1. The measurement takes place 1 mm underneath the plate surface. Swebor Armor™ 440 reaches hardness values between 420 and 470 HB.

MECHANICAL PROPERTIES (TYPICAL VALUES)

YEILD STRENGTH $R_{p_{0,2}}$ (N/mm ²)	TENSILE STRENGTH R_m (N/mm ²)	ELONGATION A_5 (%)	ELONGATION A_{50} (%)
1150	1450	12,0	14

IMPACT STRENGTH K_v @ -40 °C (J) Thickness from 6 - 8 mm	Thickness from 8,1 - 12 mm	Thickness from 12,1+ mm
11	17	22

GENERAL WORKING INFOS

Due to its chemical composition Swebor Armor™ 440 has good welding characteristics due to its low carbon equivalent. Furthermore it reaches good properties for cold bending, sawing, mechanical cutting as well as milling.

CONSULTANCY

In order that Swebor Armor™ 440 withstands the different customer specific challenges, a careful production and operational planning is required. In this respect it is highly recommended to ask for professional advice which can be obtained by our expert staff or by third-party specialists of our cooperating partners.