



MATERIAL

Swebor Armor™ 600 is an UHH ballistic protection steel with extreme hardness. Advance alloying system with carbon, silicon, nickel, chromium and molybdenum with carefully managed production from the melt, rolling to heat treatment sequence give Swebor Armor™ 600 extreme combination of hardness, high strength, weldability and one of the most advanced ballistic performance properties on the market. Swebor Armor 600™ complies with MIL – DTL – 32332 (MR, w/amendment 1, 19 July 2019) with tighter chemical composition range for better material performance.

APPLICATION

Swebor Armor™ 600 can be used in most protection application i.e civil armored vehicles (limousines, SUVs, trucks), CIT-vehicles, police cars, security doors and walls, bank counters, shoot catches, etc. Swebor Armor™ 600 has one of the most advanced ballistic protection properties on the market. Swebor Armor™ 600 can be used as base material for protection or as add-on armor for most demanding applications. Regardless of its higher hardness Swebor Armor™ 600 still remains easy to handle in the workshop with good bending and welding properties.

CHEMICAL COMPOSITION (in wt.%)

MAX	C	Si	Mn	Cr	Ni	P	S	B
	0,40	0,80	0,60	0,80	3,00	0,015	0,003	0,004

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

DELIVERY CONDITION

Quenched (+ tempered)

HARDNESS

The hardness is measured according to DIN EN ISO 6506-1. The measurement takes place 1 mm underneath the plate surface. Swebor Armor™ 600 reaches hardness values between 590 and 640 HB.

MECHANICAL PROPERTIES (TYPICAL VALUES)

YEILD STRENGTH $R_{p0,2}$ (N/mm ²)	TENSILE STRENGTH R_m (N/mm ²)	ELONGATION A_5 (%)	IMPACT STRENGTH Kv -40 °C (J)
1550	2100	8,5	13

GENERAL WORKING INFOS

Due to its chemical composition Swebor Armor™ 600 has good welding characteristics. Furthermore it reaches good properties for cold bending, sawing, mechanical cutting as well as milling. In order not to lose its typical characteristics, especially its hardness, Swebor Armor™ 600 must not be heated above 150°C.

CONSULTANCY

In order that Swebor Armor™ 600 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.

DIMENSION RANGE

THICKNESS (mm)	WIDTH (mm)	LENGTH (mm)	NORMAL STOCK DIMENSION (mm)
3,00 - 6,50	1000 - 1550	1500 - 8000	1500 x 3000
7,00 - 12,00	1000 - 1550	1500 - 6100	1500 x 3000
			1500 x 600 (optional)

*1500mm width might be possible. Discussion required

WIDTH TOLERANCE	0 + 20 mm
FLATNESS	Guaranteed maximum deviation of flatness is 6,0 mm/m

BALLISTIC RECOMMENDATIONS SWEBOR ARMOR™ 600

AMMUNITION CALIBER	TYPE	TEST COND. DISTANCE (m)	VELOCITY (m/s)	RECOMMENDED THICKNESS (mm)	NORMS VPAM (Class)	EN 1522/1063	STANAG 4569/AEP55 AND OTHERS	ADD. INFO
5,56x45	FMJ/PB/SCP	30	950 ±10	4,7	7/Part1	FB5/BR5	STANAG Lv.1/Part1	M855/SS109
7,62x51	FMJ/PB/SC	30	830 ±10	4,7	7/Part2	FB6/BR6	STANAG Lv.1/Part2	NATO ball
5,56x45	FMJ/PB/HC	30	937 ±20	5,7	-	-	STANAG Lv.1/Part3	M193/SS92
5,56x45	FMJ/PB/HC	30	990 ±10	6,3	-	-	STANAG Lv.1/Part3	M193/SS92
V special request	FMJ/FN/SC	5	426 ±15	3,0*	-	-	NIJ Level IIIA	-
7,62x39 API BZ	FMJ/PB/HCI	30	695 ±20	8,5	-	-	STANAG Lv.2	AK47 API
7,62x51	FMJ/PB/HC	10	820 ±10	10,0	9	FB7/BR7	-	VPAM PM9 - FMJ/PB/HC - P80
7,62x54R B32	FMJ/PB/HCI	30	860 ±10	12,0	10	-	STANAG Lv.3	Dragunov

*smaller plate thickness possible

FMJ	Full Metal Jacket	CB	Coned Bullet	SC	Soft Core
		RN	Round Nose	FeC	Fe-Core (non hardened)
		PB	Pointed Bullet	SCP	Soft Core Penetrator
		FN	Flat Nose	HC	Hard Core (steel core)
				I	Incendiary