



MATERIAL

Swebor Armor™ 550 is advance 550HB protection steel. Specifically chemical composition with addition of nickel, chromium and molybdenum with carefully managed production from the melt, rolling to heat treatment sequence give Swebor Armor™ 550 advance combination of hardness, strength, bendability, weld ability and ballistic performance.

APPLICATION

Swebor Armor™ 550 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. SweborArmor 550B has advance ballistic performance. In comparison with 500HB protection steel Swebor Armor™ 550 offers same protection properties at lower thickness which guarantee same protection level at lower weight. Regardless higher hardness Swebor Armor™ 550 still remains easy to handle in the workshop with excellent bending and welding properties.

CHEMICAL COMPOSITION (in wt.%)

MAX	C	Si	Mn	Cr	Ni	P	S	B
	0,32	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™ 550 reaches hardness values between 530 and 560 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 K_v -40 °C (J)
1400	1800	10	22

GENERAL WORKING INFOS

Due to its chemical composition Swebor Armor™ 550 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™ 550 must not be heated above 200°C.

CONSULTANCY

In order that Swebor Armor™ 550 withstands the different customer specific challenges, a careful production and operational planning is required. To verify actual ballistic protection properties, tests must be performed for each application. Therefore 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)
2,00 - 2,49	1000 - 1150*	1500 - 7000	1000 x 3000
2,50 - 2,99	1000 - 1300*	1500 - 4000	1000 x 3000
3,00 - 6,50	1000 - 1550	1500 - 8000	1500 x 3000
7,00 - 20,00	1000 - 1550	1500 - 6100	1500 x 3000

*1500mm width might be possible. Discussion required

BALLISTIC RECOMMENDATIONS SWEBOR ARMOR™ 550

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
7,62x39	FMJ/PB/FeC	10	720 ±10	3,7	6	-	-	Kalashnikov (soft core)
5,56x45	FMJ/PB/SCP	30	950 ±10	5,7	7/Part1	FB5/BR5	STANAG Lv.1/Part1	M855/SS109
7,62x51	FMJ/PB/SC	30	830 ±10	5,7	7/Part2	FB6/BR6	STANAG Lv.1/Part2	NATO ball
5,56x45	FMJ/PB/SCP	30	950 ±10	6,5	7/Part1	FB5/BR5	STANAG Lv.1/Part1	SS109 VPAM77 + car plate
5,56x45	FMJ/PB/HC	30	937 ±20	6,7	-	-	STANAG Lv.1/Part3	M193/SS92
7,62x39 API BZ	FMJ/PB/HCI	30	695 ±20	10,0	-	-	STANAG Lv.2	AK47 API
7,62x51 AP	FMJ/PB/HC	10	820 ±10	12,0	9	FB7/BR7	-	VPAM PM9 - FMJ/PB/HC - P80

*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

