

## MARS® STEELS FOR MILITARY APPLICATIONS

 LEVEL  
 STANAG  
 4569\*\*

KE THREAT

RECOMMENDED MINIMUM THICKNESS FOR PROTECTION (mm)

	Calibre and projectile type	V proof (+/- 20m/s)	i	Mars® 190	Mars® 240	Mars® 300	Mars® 600	Multi-layer systems	Area density (kg/sqm)
1a	7,62 x 51 ball 5,56 x 45 SS 109	833 900	0°	10,5	6,3	5,7	5,2		
1	7,62 x 51 ball 5,56 x 45 SS 109 5,56 x 45 M 193	833 900 937	0°	10,5	9,3	6,5	7,2	Mars® 300 th 5,2 mm + 0 mm air + Glass fibers th 6 mm	54
2	7,62 x 39 APIBZ	695	0°	13,5	12,5	8,5	8,5	Mars® 600 th 4,5 mm + 10 mm air + Mars® 240 th 6,5 mm Mars® 300 th 5,4 mm + 0 mm air + Aramid fibers th 9 mm	90 57
3a	7,62 x 54 APIB32	854	30°	7	6	-	6*	Mars® 600 th 5 mm + 30 mm air + Mars® 600 th 6,5 mm Mars® 600 th 5 mm + 10 mm air + Mars® 190 th 8 mm	91 106
3	7,62 x 54 APIB32 7,62 x 51 APWC	854 930	0°	18	17	13	14*	Mars® 300 th 9 mm + 15 mm air + Mars® 190 th 13,5 mm M300P th 6 mm + 30 mm air + M300P th 8 mm + 30 mm air + Mars® 240 th 12,5 mm	182 169
4	14,5 x 114 API B32	911	0°	23	21,5	18	-	Mars® 600 th 7 mm + 30 mm air + M300P th 6 mm + 30 mm air + Mars® 600 th 8,5 mm M300P th 6 mm + 30 mm air + M300P th 8 mm + 30 mm air + Mars® 600 th 8,5 mm	155 135
5	25 x 137 APDST	1258	60°	34	8	-	-	Mars® 300 th 14 mm + 0 mm air + Mars® 190 th 13,5 mm Mars® 600 th 8,5 mm + 20 mm air + Mars® 600 th 8,5 mm + 20 mm air + Mars® 240 th 8 mm Mars® 600 th 8,5 mm + 30 mm air + Mars® 190 th 15 mm Mars® 240 th 6 mm + 30 mm air + Mars® 190 th 13, 5 mm	224 196 190 159
			60°	34	8,5	-	-	M300P th 12 mm + 100 mm air + M300P th 6 mm + 100 mm air + Mars® 190 th 15 mm	210

M300P = Perforated Mars® 300

\*: To be optimized

\*\*: AEP-55 / Volume 1 / Edition C / Version 1 (April 2014)

Final configuration must be tested on vehicle.

All information in this document is for the purpose of information only.

Industeel reserves the right to change its product range at any time without prior notice.

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## MARS® STEELS FOR CIVIL APPLICATIONS

LEVEL OF PROTECTION	CALIBRE & PROJECTILE TYPE	BULLET WEIGHT	BULLET VELOCITY (2,5 meters before target)	TEST RANGE	Mars® 240	Mars® 300	Mars® 600
		g	m/s	ft/s			
EN1522 FB3 NIJ 0108.01 . niv II	.357 Magnum	10,2	430 ± 10	1427 ± 33	5 m (16')	2,3	-
EN1522 FB4 NIJ 0108.01 . niv III A	.44 Magnum	15,6	440 ± 10	1444 ± 33	5 m (16')	2,5	-
VPAM Klasse 4	.357 Magnum & .44 Magnum	10,2 15,6	430 ± 10 440 ± 10	1427 ± 33 1444 ± 33	5 m (16')	2,5	-
EN 1522 annex A	7,62 mm x 39 M43	7,95	705 ± 10	2313 ± 33	10 m (33')	4,0	3,9
EN 1522 FB5	5,56 mm x 45 SS109	4,0	950 ± 10	3117 ± 33	10 m (33')	7,2 or 6,5*	5,2
EN 1522 FB6	5,56 mm x 45 SS109 & 7,62 mm x 51 ball	4,0 9,5	950 ± 10 830 ± 10	3117 ± 33 2723 ± 33	10 m (33')	7,2 or 6,5*	5,2
VPAM Klasse 7							
NIJ 0108.01 niv III	.308 Winchester	9,5	838 ± 15	2750 ± 50	10 m (33')	6,5	5,3
EN 1522 Annex A	5,56 mm x 45 M 193	3,6	980 ± 10	3215 ± 33	10 m (33')	9,8	8,5
EN 1522 FB7 VPAM Klasse 9	7,62 mm x 51 AP	9,7	820 ± 10	2690 ± 33	10 m (33')	15	10,5
NIJ 0108.01 Niv IV	.30 APM2 x 63	10,8	868 ± 15	2850 ± 50	10 m (33')	17	12,5
VPAM Klasse 10	7,62 mm x 54 APIB32	10,4	860 ± 10	2822 ± 33	10 m (33')	17	14**

6,5 mm\* : specific grade

\*\* : To be optimized

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