

MARS® STEELS FOR MILITARY APPLICATIONS

LEVEL STANAG 4569**	KE THREAT	RECOMMENDED MINIMUM THICKNESS FOR PROTECTION (mm)						
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	Calibre and projectile type	V proof (+/- 20m/s)	i	Mars® 190 Class 1	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	90
			30°	7	6	-	6*	Mars® 300 th 5,4 mm + 0 mm air + Aramid fibers th 9 mm	57
3a	7,62 x 54R APIB32	854	0°	18	17	13	14*	Mars® 600 th 5 mm + 30 mm air + Mars® 600 th 6,5 mm	91
								Mars® 600 th 5 mm + 10 mm air + Mars® 190 th 8 mm	106
3	7,62 x 54 APIB32 7,62 x 51 APWC	854 930	0°	23	21,5	18	-	Mars® 300 th 9 mm + 15 mm air + Mars® 190 th 13,5 mm	182
								M300P th 6 mm + 30 mm air + M300P th 8 mm + 30 mm air + Mars® 240 th 12,5 mm	169
								Mars® 600 th 7 mm + 30 mm air + M300P th 6 mm + 30 mm air + Mars® 600 th 8,5 mm	155
								M300P th 6 mm + 30 mm air + M300P th 8 mm + 30 mm air + Mars® 600 th 8,5 mm	135
4	14,5 x 114 API B32	911	0°	37	Mars® 300 th 14 mm + 0 mm air + Mars® 190 th 13,5 mm			224	
					Mars® 600 th 8,5 mm + 20 mm air + Mars® 600 th 8,5 mm + 20 mm air + Mars® 240 th 8 mm			196	
					Mars® 600 th 8,5 mm + 30 mm air + Mars® 190 th 15 mm			190	
					30°	23	Mars® 240 th 6 mm + 30 mm air + Mars® 190 th 13, 5 mm		
5	25 x 137 APDST	1258	60°	34	M300P th 12 mm + 100 mm air + M300P th 6 mm +100 mm air + Mars® 190 th 15 mm			210	

\* : To be optimized  
 \*\* : AEP-55 / Volume 1 / Edition C / Version 1 (April 2014)  
 Final configuration must be tested on vehicle.

M300P = Perforated Mars® 300

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.  
 Looking for a specific multi-layer configuration of for protection against a threat that is not included in this table? Please contact us for recommendation

## MARS® STEELS FOR CIVIL APPLICATIONS

LEVEL OF PROTECTION	CALIBRE & PROJECTILE TYPE	BULLET WEIGHT	STRIKING VELOCITY***		TEST RANGE	RECOMMENDED MINIMUM THICKNESS FOR PROTECTION (mm)		
			g	m/s		Mars® 240	Mars® 300	Mars® 600
NIJ 0108.01. Ivl II	.357 Magnum JSP	10,2	426 ± 15	5 m (16')	2,3	-	-	
EN 1522 FB3	.357 Magnum FJ/CB/SC	10,2	430 ± 10	5 m (16')	2,3	-	-	
NIJ 0108.01 Ivl IIIA	.44 Magnum SWC	15,6	426 ± 15	5 m (16')	2,5	-	-	
VPAM PM4	.357 Magnum FJ/CB/SC	10,2	430 ± 10	10 m (33')	3,2**	-	-	
EN 1522 FB4	.44 Magnum FJ/FN/SC	15,6	440 ± 10					
EN 1522 Annex 4	7,62 x 39 FJ/PB/SC M43	8	700 ± 10	10 m (33')	4,0	3,7	3,9	
VPAM PM6			720 ± 10	10 m (33')				
EN 1522 FB5	5,56 x 45 SS109	4	950 ± 10	10 m (33')	7,2 or 6,5*	5,2	5,2	
EN 1522 FB6	5,56 x 45 SS109	4	950 ± 10	10 m (33')	7,2 or 6,5*	6,0	5,2	
VPAM PM7	7,62 x 51 Ball	9,5	830 ± 10					
NIJ 0101.08 Ivl III	7,62 x 51 M80	9,7	838 ± 15	10 m (33')	6,5	6,0	5,3	
EN 1522 FB7	7,62 x 51 AP (P80)	9,8	820 ± 10	10 m (33')	15	10,5	11,0	
VPAM PM9								
NIJ 0108.01 Ivl IV	.30-06 (7,62 x 63) AP M2	10,8	868 ± 15	10 m (33')	17	12,5	12,5	
VPAM PM10	7,62 x 54R API B32	10,4	860 ± 10	10 m (33')	17	13	14**	

\* : Specific grade

\*\* : To be optimized

\*\*\* : For EN 1522 and VPAM PM 2006, velocity is recorded at maximum 2,5m from target strike face

For NIJ 0108.01, velocity is recorded at 2,5m from target strike face for levels II and IIIA and 12,5m for levels III and IV

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