

GUIDE TO IMPACT TESTING

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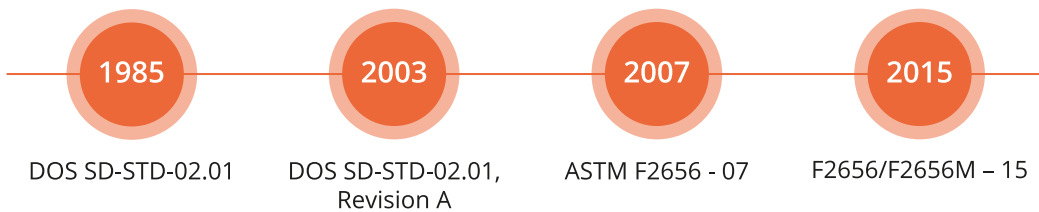
There are many threats of terroristic attacks in the world today. To prevent risks the territory should be protected by road barriers, blockers and bollards. To be sure that equipment can guarantee absolute protection it must be tested by specialized laboratories based on ASTM F2656 / F2656M-15 (for America) and IWA 14-1: 2013 (for Europe) standards.

ASTM F2656/F2656M – 15

American Society for Testing and Materials
(formerly the Department of State K rating - DOS)



History of development:



ASTM Classification codes

Vehicle category	Medium-duty truck (M)			Truck Cab over class 7 (C7)		
Code	M30 (previously K4)	M40 (previously K8)	M50 (previously K12)	C730	C740	C750
Vehicle weight, kg [lbm]	6800 [15000]			7200 [15873]		
Vehicle speed, km/h [mph]	50 [30]	65 [40]	80 [50]	50 [30]	65 [40]	80 [50]
Kinetic energy at impact, kJ	656	1110	1680	673	1199	1872



IWA 14 – 1: 2013

IWA – International Workshop Agreement

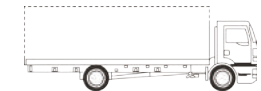
Developed based on:

- ASTM F 2656
- PAS 68
- PAS 69
- CWA 16221



IWA Classification codes

1	2	3	4	5	6
Blocker	V	7200 N2B	62	90	0



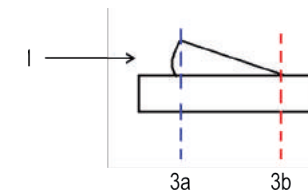
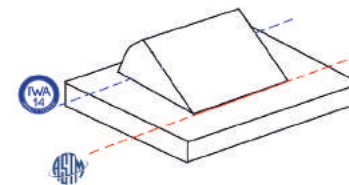
- 1 – Equipment name
- 2 – Classification of Test. (V – means Impact Vehicle test)
- 3 – Vehicle class (given vehicle weight)
- 4 – Vehicle speed
- 5 – Angle of test impact
- 6 – Penetration of the vehicle beyond the blocker

Penetration rating comparing

Penetration rating indicates the distance between large debris (after the collision of the car with the blocker) and tested equipment. The reference point of penetration is different depending on the standard.

PENETRATION RATING CODES

Code	Penetration distance
ASTM F2656/F2656M – 15	
P1	< 1 m
P2	1,01 m to 7 m
P3	7,01 m to 30 m
IWA 14 – 1: 2013	
Indicated the actual penetration distance (m)	



- 1 – direction of the vehicle movement;
- 2 – tested equipment;
- 3a – the starting point measuring of penetration distance of heavy derbies according to IWA standard;
- 3b – the starting point measuring of penetration distance of heavy derbies according to ASTM standard.

