

High Security Barriers

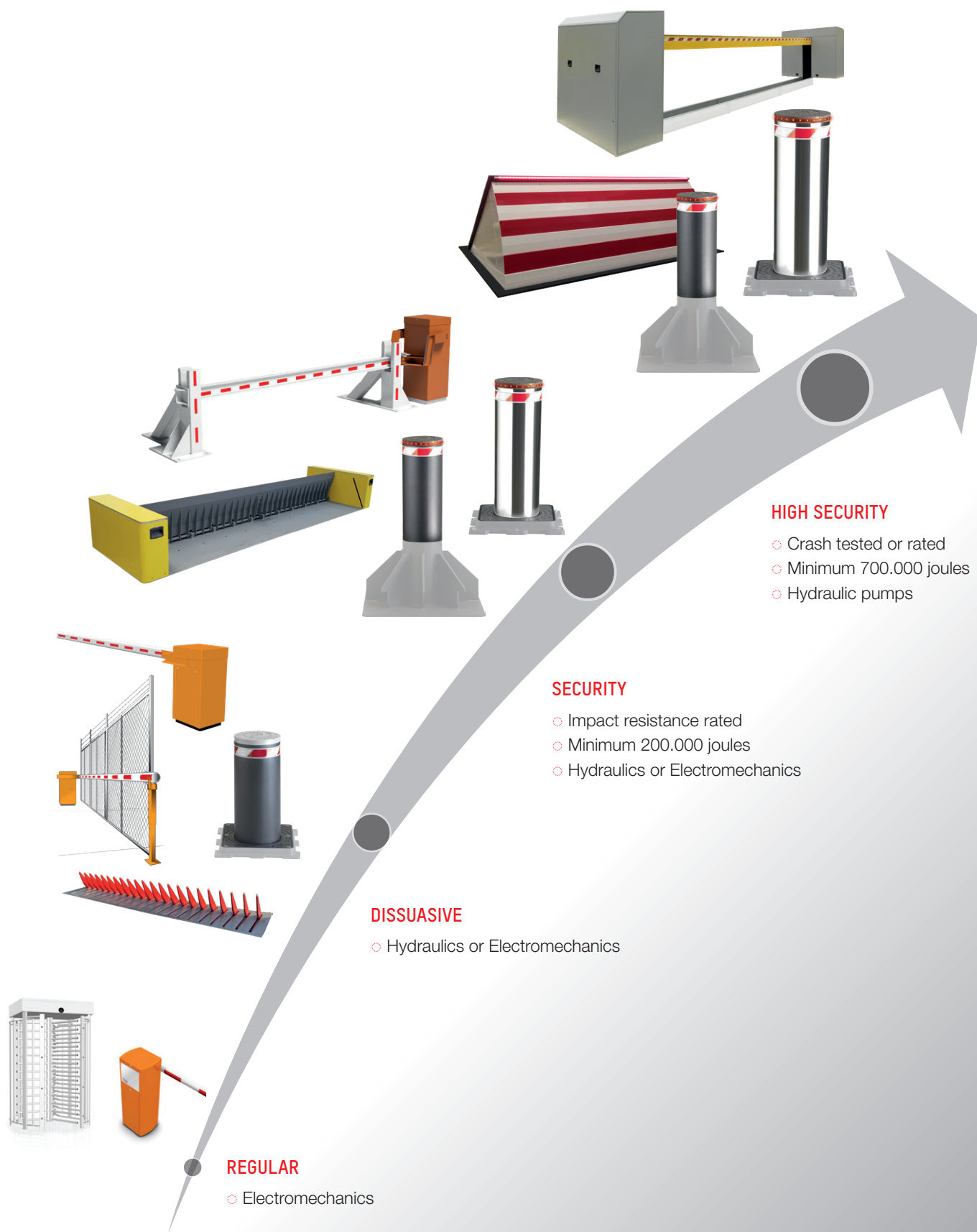
Portfolio



AS **AUTOMATIC**
SYSTEMS

Access controlled...
Future secured

Vehicle barriers by Automatic Systems



Our security and our high security products

Ongoing current global terrorist activity threats continue to drive demand for antiterror measures. HIGH SECURITY products (also known as HVM products) protect the infrastructure against vehicle-borne threats, creating blast stand-off distance.

Since September 11th 2001, several international accreditation standards have defined essential impact performance requirements for a vehicle security barrier (VSB) and a test method for rating its performance.

There are essentially 2 standard families:

- US standards with the precursor DOS K-rating which has been replaced and extended by the ASTM F2656 standard;
- UK created PAS68 standard which has been replaced and extended by international standard IWA14-1 (ISO).



Impact resistance equivalences between these standards do not officially exist but all those rating are using the same calculation method, that of the kinetic energy:

$E = \frac{1}{2} (m \cdot U^2)$. Resulting in conclusion:

- M50 <> K12 <> PAS 68 V/7500/80 <> IWA14 V/7200/80 <> 2.000.000 joules
- M40 <> K8 <> PAS 68 V/7500/64 <> IWA14 V/7200/64 <> 1.200.000 joules
- M30 <> K4 <> PAS 68 V/7500/48 <> IWA14 V/7200/48 <> 750.000 joules

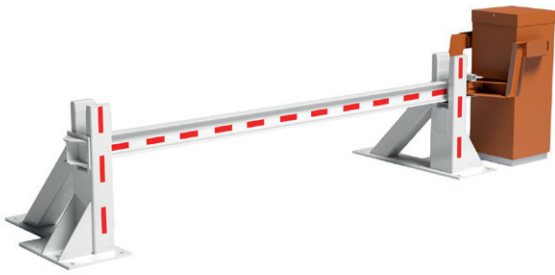
Impact resistance will be certified by a crash-test, a computer simulation or an engineer calculation.

SECURITY products are also defined by US, UK and ISO standards. Then, for those very products, the impact resistance are between 200.000 joules and 700.000 joules.

HIGH SECURITY and SECURITY products differentiate also themselves by several features such as: passage width, obstacle height, foundation depth, rising/ lowering speed and also the Emergency Fast Operation (E.F.O) which is mandatory for high security installations.

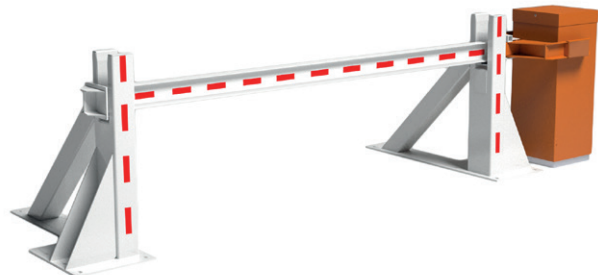
	Products	Impact resistance	Beam Barriers	Road Blockers	Fixed / Removable Bollards	Automatic Bollards	Manual / Semiautomatic bollards	Tyre Killers
SECURITY	C50 series	1,5 T at 64 Km/h 3,5 T at 32 Km/h 250.000 joules						
	C60 series	1,5 T at 80 Km/h 3,5 T at 48 Km/h 400.000 joules						
HIGH SECURITY	M30 series	3,5 T at 80 Km/h 7,5 T at 48 Km/h 750.000 joules						
	M40 series	3,5 T at 96 Km/h 7,5 T at 64 Km/h 1.200.000 joules						
	M50 series	3,5 T at 112 Km/h 7,5 T at 80 Km/h 2.000.000 joules						

Beam barriers



BL43 C50M1

Rising barrier
Impact resistance: 250.000 joules
Height: 770 mm
Length: 3 m
Shallow mounted
Electromechanical actuator
2 directions of obstacle
For type M1 vehicle (car)



BL43 C50N1

Rising barrier
Impact resistance: 250.000 joules
Height: 1030 mm
Length: 3 m
Shallow mounted
Electromechanical actuator
2 directions of obstacle
For type N1 vehicle (flat bed)

HIGH SECURITY



BL M50

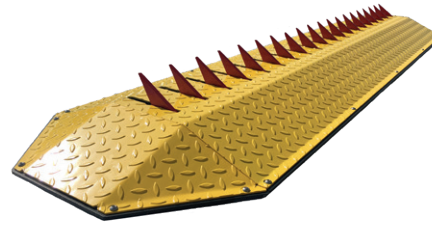
Lift Barrier
Impact resistance: 2.000.000 joules
Height: 1100 mm
Length: from 3 to 6 m
Shallow mounted
2 hydraulic pumps
2 directions of obstacle

Tyre killers



TK AUTO

Immobilization of a vehicle by puncturing its tires
Height: 500 mm
Length: from 2 to 6 m
Spikes 20 mm
Automatic lift with remote hydraulic pump



TK MAN

Immobilization of a vehicle by puncturing its tires
Height: 60 mm
Length: from 2 to 6 m
Spikes: 10 mm
Mechanical lift by counterweight
Free exit

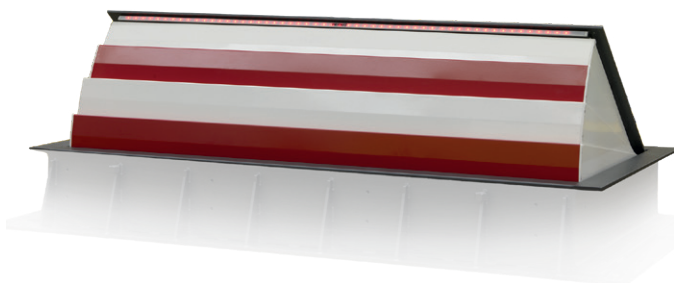
Road blockers



RSB C60SM

Impact resistance: 400.000 joules
Height: 500 mm
Length: 3,5 m / 4,5 m / 5,5 m
Surface mounted
Local hydraulic pump

HIGH SECURITY



RSB M30

Impact resistance: 750.000 joules
Height: 500 mm
Length: from 2 to 6 m
Shallow mounted
Remote hydraulic pump



RSB M50

Impact resistance: 2.000.000 joules
Height: 1000 mm
Length: from 2 to 6 m
Shallow mounted
Remote hydraulic pump
Crash-test:
PAS68:2013 V/7500(N3)/80/90:0.2/10



Automatic hydraulic or automatic electromechanical or semi-automatic bollards

RB C50/C60



RB C50_800

Automatic bollard with built-in hydraulic pump

Impact resistance: 250.000 joules

Height: 800 mm

Diameter/Thickness: $\varnothing \pm 275/6$ mm

Also available in version:

- **RBEM_800**: automatic electromechanical bollard
- **MB_800**: semi-automatic bollard

RB C50_600

Automatic bollard with built-in hydraulic pump

Impact resistance: 250.000 joules

Height: 600 mm

Diameter/Thickness: $\varnothing \pm 275/6$ mm

Also available in version:

- **RBEM_600**: automatic electromechanical bollard
- **MB_600**: semi-automatic bollard

RB C60_800

Automatic bollard with built-in hydraulic pump

Impact resistance: 400.000 joules

Height: 800 mm

Diameter/Thickness: $\varnothing \pm 275/10$ mm

RB C60_600

Automatic bollard with built-in hydraulic pump

Impact resistance: 400.000 joules

Height: 600 mm

Diameter/Thickness: $\varnothing \pm 275/10$ mm



RBEM_800, RBEM_600

Automatic electromechanical bollard

Impact resistance: 150.000 joules

Height: 800 / 600 mm

Diameter/Thickness: $\varnothing \pm 275/4$ mm

MB_800, MB_600, MB_500

Semi-automatic bollard

Gas-embedded activator

Impact resistance: 250.000 joules

Height: 800/600/500 mm

Diameter/Thickness: $\varnothing \pm 275/6$ mm

RB127_800, RB127_600

Automatic bollard with built-in hydraulic pump

Impact resistance: 150.000 joules

Height: 800/600 mm

Diameter/Thickness: $\varnothing \pm 127/6$ mm

Automatic hydraulic or automatic electromechanical or manual

RB M30/M40



RB M30_700

Automatic bollard with built-in hydraulic pump
Impact resistance: 750.000 joules
Height: 700 mm
Diameter/Thickness: $\varnothing \pm 275/10$ mm



RB M30_900

Automatic bollard with built-in hydraulic pump
Impact resistance: 750.000 joules
Height: 900 mm
Diameter/Thickness: $\varnothing \pm 275/10$ mm
Crash-test:
IWA 14-1: 2013 V/7200(N3C)/48/90:1.0
PAS68: 2013 V/7500(N3)/48/90:1.0/2.5
Also available in version:

- **RBEM M30_900**: automatic electromechanical bollard
- **RMB M30_900**: manual bollard



RB M40_1200

Impact resistance: 1.200.000 joules
Height: 1200 mm
Diameter/Thickness: $\varnothing \pm 275/15$ mm
Also available in version:

- **RBEM M40_1200**: automatic electromechanical bollard
- **RMB M40_1200**: manual bollard

RB M50



RB M50_900

Impact resistance: 2.000.000 joules
Height: 900 mm
Diameter/Thickness: $\varnothing \pm 275/25$ mm
Crash-test:
DOS SD-SDT-02.01 Rating K12/L1
Also available in version:

- **RBEM M50_900**: automatic electromechanical bollard
- **RMB M50_900**: manual bollard



RB M50_1200

Impact resistance: 2.000.000 joules
Height: 1200 mm
Diameter/Thickness: $\varnothing \pm 275/25$ mm
Crash-test:
PAS68: 2013 V/7500(N3)/80/90:1.4/8.0
Also available in version:

- **RBEM M50_1200**: automatic electromechanical bollard
- **RMB M50_1200**: manual bollard



Fixed bollards

FB C50/C60

FIXED INTO
THE GROUND



FB C50_800

Impact resistance: 250.000 joules
Height: 800 mm
Diameter/Thickness: $\varnothing \pm 275/6$ mm
Fixed into the ground
Super shallow mounted
*Also available in removable version
with cover plate*



FB C50_600

Impact resistance: 250.000 joules
Height: 600 mm
Diameter/Thickness: $\varnothing \pm 275/6$ mm
Fixed into the ground
Super shallow mounted
*Also available in removable version
with cover plate*



FB C50_500

Impact resistance: 250.000 joules
Height: 500 mm
Diameter/Thickness: $\varnothing \pm 275/6$ mm
Fixed into the ground
Super shallow mounted
*Also available in removable version
with cover plate*

FB C60_800

Impact resistance: 400.000 joules
Height: 800 mm
Diameter/Thickness: $\varnothing \pm 275/10$ mm
Fixed into the ground
Shallow mounted

FB C60_600

Impact resistance: 400.000 joules
Height: 600 mm
Diameter/Thickness: $\varnothing \pm 275/10$ mm
Fixed into the ground
Shallow mounted

FB127



FB127_800

Impact resistance:
150.000 joules
Height: 800 mm
Diameter/Thickness: $\varnothing \pm 127/6$ mm
Fixed into the ground
Super shallow mounted



FB127_600

Impact resistance:
150.000 joules
Height: 600 mm
Diameter/Thickness: $\varnothing \pm 127/6$ mm
Fixed into the ground
Super shallow mounted

Fixed high security bollards

FB M30/M40



FB M30_700

Impact resistance: 750.000 joules
Height: 700 mm
Diameter/Thickness: $\varnothing \pm 275/10$ mm
Fixed into the ground
Shallow mounted
Also available in removable version with cover plate



FB M30_900

Impact resistance: 750.000 joules
Height: 900 mm
Diameter/Thickness: $\varnothing \pm 275/10$ mm
Fixed into the ground
Shallow mounted
Crash-test:
IWA 14-1:2013 V/7200(N3C)/48/90:-1.0
PAS 68:2013 V/7500(N3)/48/90:-1.3
ASTM F2656/2656M-18a Rating
C730-P1



FB M40_1200

Impact resistance: 1.200.000 joules
Height: 1200 mm
Diameter/Thickness: $\varnothing \pm 275/15$ mm
Fixed into the ground
Shallow mounted

FB M50

FB M50_900

Impact resistance:
2.000.000 joules
Height: 900 mm
Diameter/Thickness:
 $\varnothing \pm 275/25$ mm
Fixed into the ground
Shallow mounted



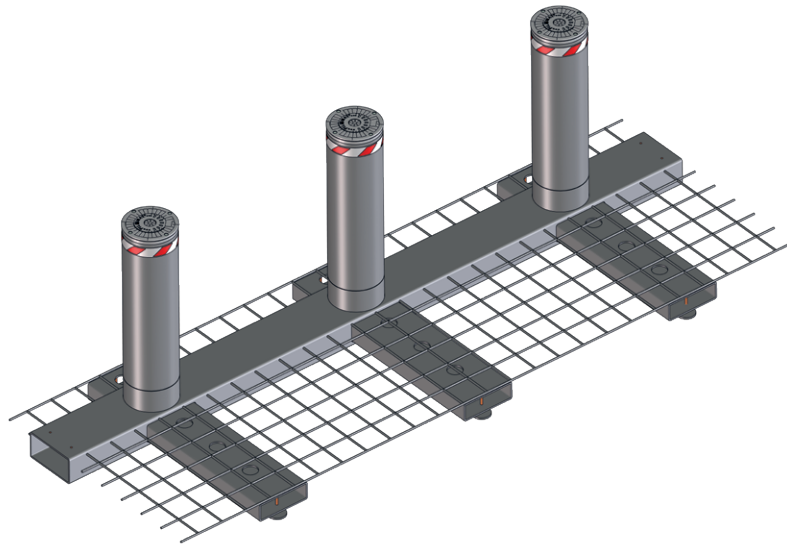
Crash-test:
IWA 14-1:2013 V/7200(N3C)/80/90:0.3
PAS68:2013 V/7500(N3)/80/90:0.0
ASTM F2656/2656M-18a Rating C750-P1

FB M50_1200

Impact resistance:
2.000.000 joules
Height: 1200 mm
Diameter/Thickness:
 $\varnothing \pm 275/25$ mm
Fixed into the ground
Shallow mounted



Super shallow mount fixed bollards



FB M30_900SD

Impact resistance: 750.000 joules
Height: 900 mm
Diameter/Thickness: $\varnothing \pm 275/10$ mm
Base plate of minimum width for 3 bollards)
Super shallow mounted

Crash-test:

IWA 14-1:2013 V/7200(N3C)/48/90:7.7
PAS68: 2013 V/7500(N3)/48/90:7.4
ASTM F2656/2656M-18a Rating C730-P3

Removable bollards



FR_600

Height: 600 mm
Diameter/Thickness: $\varnothing \pm 275/5$ mm



FR M30_700 & FR M30_900

Impact resistance: 750.000 joules
Heights: 700 mm & 900 mm
Diameter/Thickness: $\varnothing \pm 275/10$ mm

FR M50_900

Impact resistance: 2.000.000 joules
Height: 900 mm
Diameter/Thickness: $\varnothing \pm 275/25$ mm

SELECT YOUR BARRIER	IMPACT RESISTANCE (JOULES)	IMPACT RESISTANCE (VEHICLE)	RESISTANCE WITHOUT DEFORMATION (JOULES)	OBSTACLE HEIGHT (MM)	SPEED (SEC.) RISING / LOWERING	ENHANCED SPEED (SEC.) RISING / LOWERING	EMERGENCY FAST OPERATION (SEC.)	OBS TACLE WIDTH (MM)	FOUNDATION DEPTH	CYCLES HOUR/ DAY
AUTOMATIC BEAM BARRIER										
BL M50	2.000.000	3,5T at 112 Km/h 7,5T at 80 Km/h		1100	7/7	On demand	2	3-4-5-6000	Shallow*	300/2000
BL43 C50M1	250.000	1,5T at 64 Km/h 3,5T at 32 Km/h		770	3.5/5.5			2-3000		400/5000
BL43 C50N1				1030						
AUTOMATIC ROAD BLOCKER										
RSB M50	2.000.000	3,5 T at 112 Km/h 7,5 T at 80 Km/h	700.000	1000	7/7	On demand	2	2-3-4-5-6000	Shallow*	300/2000
RSB M30	750.000	3,5 T at 64 Km/h 7,5 T at 48 Km/h	250.000	500	5/5	On demand	1.5	2-3-4-5-6000		
RSB C60SM	400.000	1,5 T at 80 Km/h 3,5 T at 48 Km/h	40.000	500	6/6			3500-4500-5500	Surface	
AUTOMATIC OR MANUAL TYRE KILLER										
TK Auto				500	4/4		1.5	2-3-4-5-6000	Full	300/2000
TK Man				60				2-3-4-5-6000	Surface	
AUTOMATIC BOLLARD										
RB M50	2.000.000	3,5 T at 112 Km/h 7,5 T at 80 Km/h	700.000	1200 900	5/5 4/4	On demand On demand	1 1	Diameter 275/ Thickness 25	Full	300/2000
RB M40	1.200.000	3,5 T at 96 Km/h 7,5 T at 64 Km/h	700.000	1200 900	6/5 9/4	On demand On demand	1 1	Diameter 275/ Thickness 15		
RB M30	750.000	3,5 T at 64 Km/h 7,5 T at 48 Km/h	250.000	900 700	9/4 7/3	On demand On demand	1 1	Diameter 275/ Thickness 10		
RB C60	400.000	1,5 T at 80 Km/h 3,5 T at 48 Km/h	40.000	800 600	5.5/3.5 4/2.5		2 2	Diameter 275/ Thickness 10		
RB C50	250.000	1,5 T at 64 Km/h 3,5 T at 32 Km/h	40.000	800 600	5.5/3.5 4/2.5		2 2	Diameter 275/ Thickness 6		
RBEM				800 600	7/7 5/5			Diameter 275/ Thickness 4		
MANUAL OR SEMI-AUTOMATIC BOLLARD										
RMB M50	2.000.000	3,5 T at 112 Km/h 7,5 T at 80 Km/h	700.000	1200 900				Diameter 275/ Thickness 25	Full	
RMB M40	1.200.000	3,5 T at 96 Km/h 7,5 T at 64 Km/h	700.000	1200				Diameter 275/ Thickness 15		
RMB M30	750.000	3,5 T at 64 Km/h 7,5 T at 48 Km/h	250.000	900				Diameter 275/ Thickness 10		
MB				800 600 500	4/- 3/- 2.5/-			Diameter 275/ Thickness 6		
FIXED BOLLARD										
FB M50	2.000.000	3,5 T at 112 Km/h 7,5 T at 80 Km/h	700.000	1200 900				Diameter 275/ Thickness 25	Shallow*	
FB M40	1.200.000	3,5 T at 96 Km/h 7,5 T at 64 Km/h	700.000	1200 900				Diameter 275/ Thickness 15		
FB M30	750.000	3,5 T at 64 Km/h 7,5 T at 48 Km/h	250.000	900 700				Diameter 275/ Thickness 10		
FB M30SD	750.000	3,5 T at 64 Km/h 7,5 T at 48 Km/h	250.000	900				Diameter 275/ Thickness 10	Super shallow**	
FB C60	400.000	1,5 T at 80 Km/h 3,5 T at 48 Km/h	40.000	800 600				Diameter 275/ Thickness 10	Shallow*	
FB C50	250.000	1,5 T at 64 Km/h 3,5 T at 32 Km/h	40.000	800 600				Diameter 275/ Thickness 6		
REMOVABLE BOLLARD										
FR M50	2.000.000	3,5 T at 112 Km/h 7,5 T at 80 Km/h	250.000	900				Diameter 275/ Thickness 25	Super shallow**	
FR M30	750.000	3,5 T at 64 Km/h 7,5 T at 48 Km/h	100.000	900 700				Diameter 275/ Thickness 10		
FR				600				Diameter 275/ Thickness 5		

* Shallow fondation = less than 500 mm deep / * Super shallow fondation = less than 300 mm deep

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