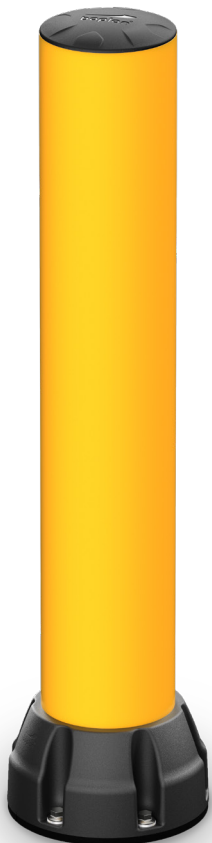




BO 200 FORCE BOPLAN BOLLARD SPECIFICATION SHEET



Revision 03: 22 Maart 2023 4:22 PM
Boplan reference: BO20F0-...



PRODUCT SPECIFICATIONS

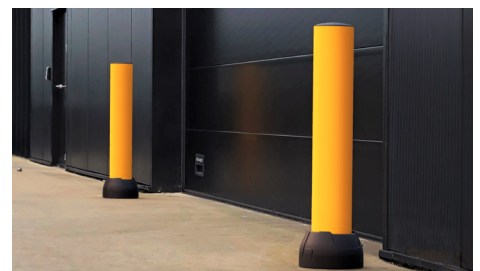
APPLICATION	
Environment	Both robust and flexible, the BO 200 Force with enforced base absorbs medium to heavy impacts in areas where high risks occurs: <ul style="list-style-type: none"> - Nearby machinery and infrastructure e.g. walls, accessways, and corners - Nearby heavy-duty vehicle traffic e.g. trucks, vans, and forklifts - Nearby people operating pushcarts, order picking vehicles and pallet trucks (due to buffering base protection) - Indoor and outdoor environments
Impact performance	16000 Joule (Eq. to 3,8 ton - 10,6 km/h)
OPTIONAL	
Base Shield	The optional Shield ensures additional protection to crucial internal components by deflecting ground level impacts. It will also increase display presence and hygiene by covering over the fixations.
Sign Mark 200	Sign board used to display important messages. It is designed for a perfect fit and signs can easily be replaced with just a click.
Sleeve	Polymer sleeve that can be slid over the bollard.
Stripes	Colored reflective stripes providing a high level of visibility.
MATERIAL	
Tube	Novilene® - UV resistant - Fire class E* - Non conductive - Impervious to most chemicals**
Caps	SEBS rubber
Base Defender	SEBS Rubber
Base Shield	SEBS Rubber
COLORS	
Bollard	Standard: Yellow RAL 1003 Also available in Black RAL 9005 (multicolor)
Base Defender	Standard: Black RAL 9005
BASEPLATE	
	Zinc Coated Steel
Material	Steel 37
Coating	Electro plating + Lacquered
Color	Gloss black

*Classification according to EN 13501-1:2007 +A1:2009 - Fire classification of construction products and building elements.
**Ask your local sales office for resistance to specific chemicals.

		FIXATIONS	
		ZC (Zinc coated)	SS (Stainless steel)
STANDARD	Concrete screw	 Ø17mm x 135mm	Not available
ALTERNATIVE	Wegde anchor	 Ø18mm (M12) x 130mm	Not available



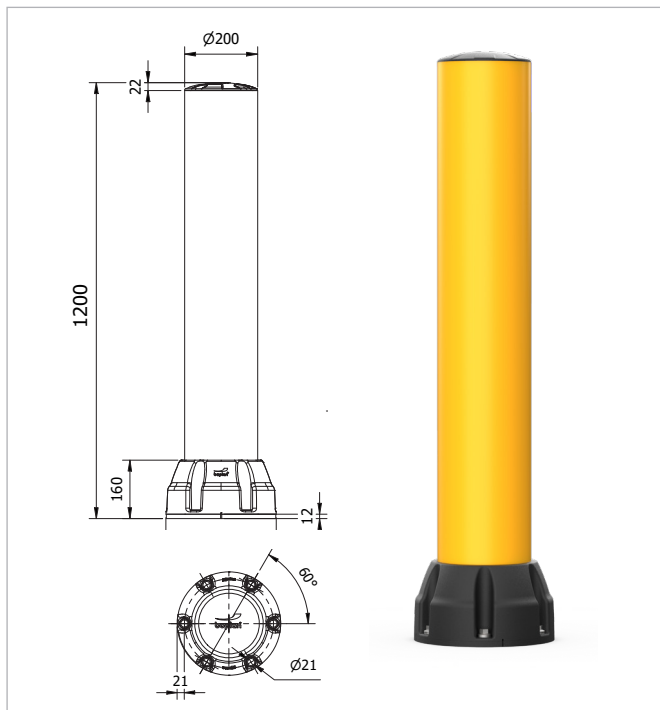
Base Defender with Impact Button



BO 200 Force with optional Base Shield.

FEATURES AND FUNCTIONALITY - BO 200 FORCE

SIZE	
Height	1200 mm 1000 mm 750 mm
Profile section post	Tube: Ø200 mm (11 mm thick)
Baseplate	Ø300 mm (12 mm thick)
Base Defender	Top: Ø200 mm Base: Ø300 mm Height: 160 mm
Base Shield (optional)	Top: Ø200 mm Base: Ø325 mm Height: 175 mm



REQUIREMENTS	
Concrete quality	minimum C25/30
Concrete floor plate thickness (mm)	minimum 150
Concrete slab dimension around posts (mm)	400 (h) x 400 (w) x 300 (d)
Operational temperature	-10°C up to +40°C
Water and humidity	Zinc coated: Indoor and outdoor use in most environments.

IMPACT LABEL FOR SAFETY BARRIERS

BOPLAN BO 200 FORCE																																					
IMPACT RATING																																					
<table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 10px; border: 1px solid black;">E50</td><td style="width: 60px; border: 1px solid black;">▶</td><td style="border: 1px solid black;">< 50 kJ</td></tr> <tr><td style="border: 1px solid black;">E40</td><td style="border: 1px solid black;">▶</td><td style="border: 1px solid black;">< 40 kJ</td></tr> <tr><td style="border: 1px solid black;">E30</td><td style="border: 1px solid black;">▶</td><td style="border: 1px solid black;">< 30 kJ</td></tr> <tr><td style="border: 1px solid black;">E25</td><td style="border: 1px solid black;">▶</td><td style="border: 1px solid black;">< 25 kJ</td></tr> <tr><td style="border: 1px solid black;">E20</td><td style="border: 1px solid black;">▶</td><td style="border: 1px solid black;">< 20 kJ</td></tr> <tr><td style="border: 1px solid black;">E15</td><td style="border: 1px solid black;">▶</td><td style="border: 1px solid black;">< 15 kJ</td></tr> <tr><td style="border: 1px solid black;">E12</td><td style="border: 1px solid black;">▶</td><td style="border: 1px solid black;">< 12 kJ</td></tr> <tr><td style="border: 1px solid black;">E10</td><td style="border: 1px solid black;">▶</td><td style="border: 1px solid black;">< 10 kJ</td></tr> <tr><td style="border: 1px solid black;">E7</td><td style="border: 1px solid black;">▶</td><td style="border: 1px solid black;">< 7.5 kJ</td></tr> <tr><td style="border: 1px solid black;">E5</td><td style="border: 1px solid black;">▶</td><td style="border: 1px solid black;">< 5.0 kJ</td></tr> <tr><td style="border: 1px solid black;">E2</td><td style="border: 1px solid black;">▶</td><td style="border: 1px solid black;">< 2.5 kJ</td></tr> <tr><td style="border: 1px solid black;">E1</td><td style="border: 1px solid black;">▶</td><td style="border: 1px solid black;">< 1.0 kJ</td></tr> </table>	E50	▶	< 50 kJ	E40	▶	< 40 kJ	E30	▶	< 30 kJ	E25	▶	< 25 kJ	E20	▶	< 20 kJ	E15	▶	< 15 kJ	E12	▶	< 12 kJ	E10	▶	< 10 kJ	E7	▶	< 7.5 kJ	E5	▶	< 5.0 kJ	E2	▶	< 2.5 kJ	E1	▶	< 1.0 kJ	<div style="background-color: #006633; color: white; padding: 10px; width: 60px; margin: 0 auto; font-weight: bold; font-size: 1.2em;">16 kJ</div>
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IMPACT RESULTS Deflection: At maximum impact energy	$\alpha_i = 17.7^\circ$ $D_i = 350 \text{ mm} / 13.8 \text{ inch}$	SUCCESS CRITERIA VEHICLE STOPPED ASI (ACCELERATION SEVERITY INDEX) < 0.5																																			
TEST CONDITIONS TEMPERATURE: 20°C / 68°F IMPACT HEIGHT: 300 mm / 12 Inch → $D_i: 350 \text{ mm} / 13.8 \text{ Inch} \rightarrow \alpha_i: 17.7^\circ$ IMPACT HEIGHT: 600 mm / 24 Inch → $D_i: 621 \text{ mm} / 24.5 \text{ Inch} \rightarrow \alpha_i: 35.4^\circ$ TEST FLOOR: CONCRETE SLAB C25/30 - 150 mm / 6 Inch	BOPLAN TEST LAB Muizelstraat 12 8560 Moorsele Belgium 	Approved by: TÜV NORD Systems PAS 13:2017 compliant 																																			
TEST VEHICLE: TYPE: BOPLAN IMPACT TEST VEHICLE WEIGHT: 3775 Kg / 8322.45 lbs SIZE (L x W x h): 3100 x 1100 x 1150 mm / 122 x 43.3 x 45.3 Inch CONTACT AREA, STEEL BUMPER WIDTH: 1000 mm / 39.4 Inch		IL-BO200FORCE-20221222																																			

REFERENCE LIST - BO 200 Force

Free standing Bollard 200 Force		
	ZINC COATED (ZC) Non - countersunk	
	YELLOW	MULTICOLOR ■
1200 mm	BO20F0-1200-0001YEZ	BO20F0-1200-0001MCZ
1000 mm	BO20F0-1000-0001YEZ	BO20F0-1000-0001MCZ
750 mm	BO20F0-0750-0001YEZ	BO20F0-0750-0001MCZ

Base Shield (OPTIONAL, NOT INCLUDED)

Ø200 mm	BP2000-0175-0001BL	
	<p>BO 200 Force with optional Base Shield.</p>	


Sleeve (OPTIONAL, NOT INCLUDED)

	YELLOW	MULTICOLOR ■
Ø225 mm	BS2250-1005-0001YE	BS2250-1005-0001MC
	<p>BO 200 Force with optional Sleeve and Base Shield.</p>	

REFERENCE LIST - BO 200 Force

STRIPES *			
	Black	White	Yellow
1 STRIPE	PA0300-0200-0001BL	PA0300-0200-0001WH	PA0300-0200-0001YE
2 STRIPES	PA0300-0200-0002BL	PA0300-0200-0002WH	PA0300-0200-0002YE
3 STRIPES	PA0300-0200-0003BL	PA0300-0200-0003WH	PA0300-0200-0003YE
			

* Remark: Stripes cannot be ordered separately

BOLLARD WITH STRIPES INCLUDED			
	Black	White	Yellow
1 STRIPE	X	X	X
2 STRIPES	X	X	X
3 STRIPES	BO20F0-1200-3YEBLZ	X	X
		X	X