

TB400 DOUBLE PLUS BOPLAN SAFETY BARRIER SPECIFICATION SHEET

Revision: 10 August 2021 4:11 PM
Boplan reference: DP4000 - ...



PRODUCT SPECIFICATIONS

APPLICATION

Environment	Double guardrail with extra handrail to separate heavy vehicles from pedestrian zones.
Impact performance at 90° (in JOULE)	POST: 30700 Joule (Eq. to 10 ton - 8,9 km/h)
	RAIL: 39100 Joule (Eq. to 10 ton - 10,0 km/h)

MATERIAL

Posts and rails	Polyolefin - UV resistant - Fire class E* - Non conductive - Impervious to most chemicals**
Caps	SEBS rubber

STANDARD COLORS



End post	Yellow
Mid post	Yellow
Impact tube	Yellow
Handrails	Yellow

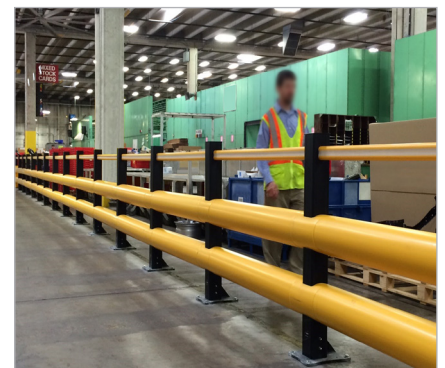
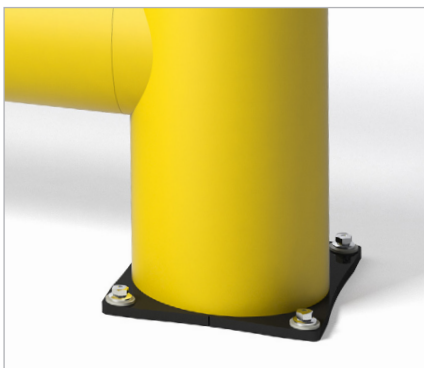
BASEPLATES

	Steel	Zinc Coated Steel	Stainless steel
Material	Steel 37	Steel 37	SS 304
Coating	Lacquered	Lacquered + electro plating	No lacquer / No coating
Color	High gloss black	Matt black	Natural color

**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	Wedge anchor	 Ø20mm (M12) x 120mm	Ø20mm (M12) x 120mm
	Anchor rod (Chemical)	 M16 x 120mm + Chemical resin	M16 x 120mm + Chemical resin
ALTERNATIVES	Concrete screw	 Ø17mm x 135mm	Not available
	Asphalt anchor	 Bolt M16 x 100mm + Screw Ø22mm	Not available



FEATURES AND FUNCTIONALITY TB400 DOUBLE PLUS

SIZE	
Height end posts	1150 mm
Height mid post	1150 mm
Profile section tubes	Ø200 mm (11 mm thick)
Profile section handrails	50 mm x 70 mm (6 mm thick)
Profile section end posts	Outer tube: Ø250 mm (11 mm thick) Inner profile: 112 mm x 112 mm (10 mm thick)
Profile section mid posts	Profile: 112 mm x 112 mm (10 mm thick)
Standard rail length	1350 mm (other sizes: 750 mm - 1750 mm)
Baseplate	End Post: 275 mm x 320 mm x 12 mm Mid Post: 220 mm x 300 mm x 12 mm

REQUIREMENTS	
Concrete quality	minimum C25/30
Concrete floor plate thickness (mm)	minimum 150 mm
Concrete slab dimension around posts (mm)	800 (h) x 800 (w) x 600 (d)
Operational temperature	-10°C up to +40°C
Water and humidity	Steel (standard): dry indoor use only. Zinc coated: outdoor use in most environments. Stainless Steel: outdoor use or frequent exposure to water and humidity.

IMPACT LABEL FOR SAFETY BARRIERS

BOPLAN TB400 DOUBLE PLUS	IMPACT RATING	
	45°	90° <small>PAS 13:2017 compliant</small>
E80	< 80 kJ	
E60	< 60 kJ	55,3 kJ
E50	< 50 kJ	
E40	< 40 kJ	39,1 kJ
E35	< 35 kJ	
E30	< 30 kJ	
E25	< 25 kJ	
E20	< 20 kJ	
E15	< 15 kJ	
E10	< 10 kJ	
E5	< 5,0 kJ	
E2	< 2,5 kJ	

TEST CONDITIONS

TEMPERATURE: 20°C
IMPACT HEIGHT: 650 mm
IMPACT ANGLE: 90°
TEST FLOOR: CONCRETE C25/30 - 160 mm
MANUFACTURER ANCHOR PULL OUT: 17 kN

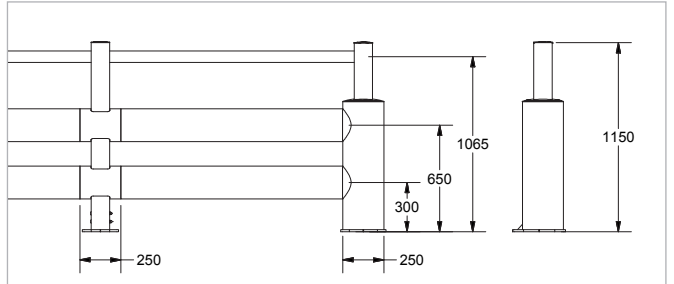
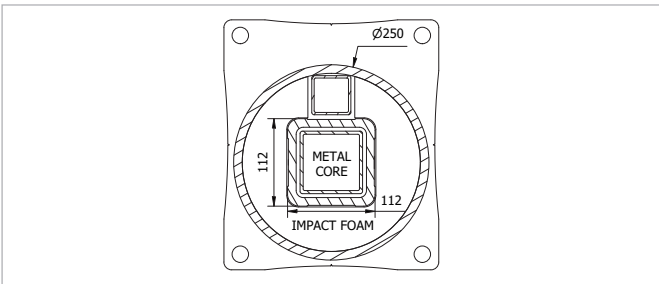
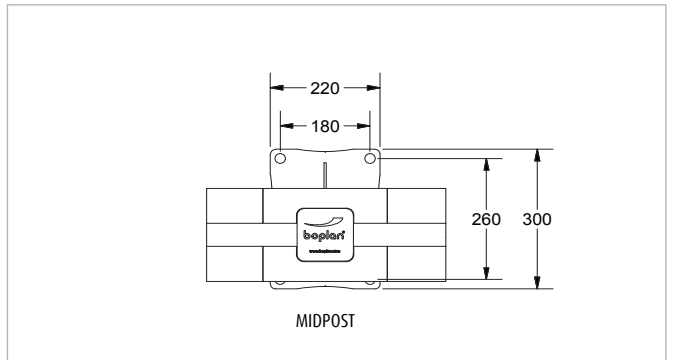
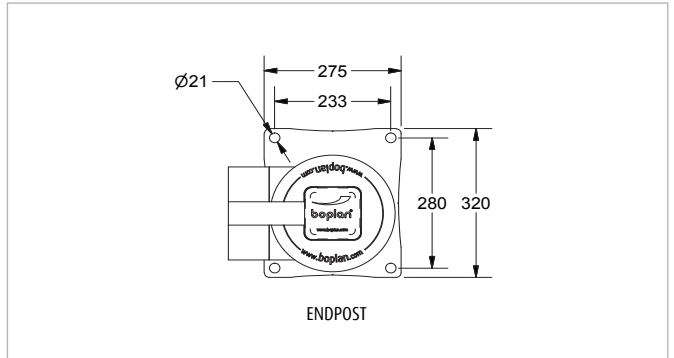
TEST VEHICLE

WEIGHT: 2300 KG
TYPE: COMMERCIAL FORK LIFT
SIZE (L x W x H): 1890 x 1020 x 1970 mm
CONTACT AREA: STEEL BUMPER WIDTH: 600 mm

ACCREDITED TEST LABORATORY

620 Route des Fromentaux
01500 Saint-Maurice-de-Rémens
01360 Beligneux
France

SUCCESS CRITERIA VEHICLE STOPPED - ASI (ACCELERATION SEVERITY INDEX) < 0.5



REFERENCE LIST - TB400 DOUBLE PLUS

POSTS		
End post Left End post Left - Stainless steel End post Left - Zinc coated	DP4000-0001-EPLYE DP4000-0001-EPLYES DP4000-0001-EPLYEZ	
Corner post Left - 90° - Up Corner post Left - 90° - Up - SS Corner post Left - 90° - Up - ZC	DP4000-0001-CPULYE DP4000-0001-CPULYES DP4000-0001-CPULYEZ	
Corner post Left - 90° - Down Corner post Left - 90° - Down - SS Corner post Left - 90° - Down - ZC	DP4000-0001-CPDLYE DP4000-0001-CPDLYES DP4000-0001-CPDLYEZ	
End post Right End post Right - Stainless steel End post Right - Zinc coated	DP4000-0001-EPRYE DP4000-0001-EPRYES DP4000-0001-EPRYEZ	
Corner post Right - 90° - Up Corner post Right - 90° - Up - SS Corner post Right - 90° - Up - ZC	DP4000-0001-CPURYE DP4000-0001-CPURYES DP4000-0001-CPURYEZ	
Corner post Right - 90° - Down Corner post Right - 90° - Down - SS Corner post Right - 90° - Down - ZC	DP4000-0001-CPDRYE DP4000-0001-CPDRYES DP4000-0001-CPDRYEZ	
Mid post Mid post - Stainless steel Mid post - Zinc coated	DP4000-0001-MPYE DP4000-0001-MPYES DP4000-0001-MPYEZ	
T end post Left* T end post Left - Stainless steel* T end post Left - Zinc coated*	DP4000-0001-TPLYE DP4000-0001-TPLYES DP4000-0001-TPLYEZ	
T end post Right* T end post Right - Stainless steel* T end post Right - Zinc coated*	DP4000-0001-TPRYE DP4000-0001-TPRYES DP4000-0001-TPRYEZ	

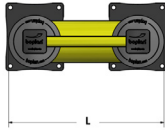
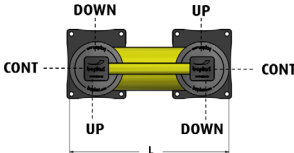
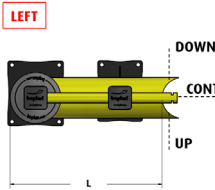
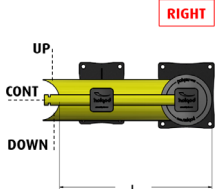
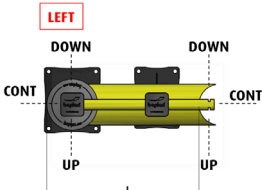
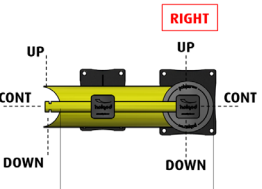
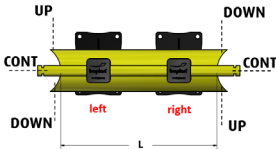
* 1 caps included to close handrail tube

CURVES		
Conn.tube Ø200 Curve 350mm - YE	DP4000-0350-C200YE	
Conn.tube Ø200 - 45° Curve 350mm - YE	DP4000-0350-C204YE	
Conn.tube Ø200 - 90° Curve 350mm - YE	DP4000-0350-C209YE	
Conn.tube Ø250 Curve 350mm - YE	DP4000-0350-C250YE	
Conn.tube Ø250 - 90° Curve 350mm - YE	DP4000-0350-C259YE	

RAIL SETS			
	Tube length (A)	CC length (B)	Reference
Standard rail	750 mm	1000 mm	DP4000-0750-1000YE
Standard rail	950 mm	1200 mm	DP4000-0950-1200YE
Standard rail	1150 mm	1400 mm	DP4000-1150-1400YE
Standard rail	1350 mm	1600 mm	DP4000-1350-1600YE
Standard rail	1550 mm	1800 mm*	DP4000-1550-1800YE
Standard rail	1750 mm	2000 mm*	DP4000-1750-2000YE
Short rail	600-1349 mm	850-1599 mm	DP4009-1599-SRYE
Long rail	1351-1749 mm	1601-2000 mm*	DP4009-2000-LRYE

* The impact performance has not been tested for tube lengths > 1600 mm. Only use these lengths for non-critical applications.

FIXED UNITS

TYPE	HANDRAIL	LENGTH	BASE	YELLOW	
no curves	Endpost	750 mm	Steel ZC SS	DP4000-0750-FUYE DP4000-0750-FUYEZ DP4000-0750-FUYES	
		751-1750 mm	Steel ZC SS	DP4001-1750-FUYE DP4001-1750-FUYEZ DP4001-1750-FUYES	
	Post <i>Up</i> <i>Down</i> <i>Continu</i>	750 mm	Steel ZC SS	DP4002-0750-FUYE DP4002-0750-FUYEZ DP4002-0750-FUYES	
		751-1750 mm	Steel ZC SS	DP4002-1750-FUYE DP4002-1750-FUYEZ DP4002-1750-FUYES	
1 curve	Endpost LEFT	750 mm	Steel ZC SS	DP4000-0750-FU1CLYE DP4000-0750-FU1CLYEZ DP4000-0750-FU1CLYES	
		751-1750 mm	Steel ZC SS	DP4001-1750-FU1CLYE DP4001-1750-FU1CLYEZ DP4001-1750-FU1CLYES	
	Endpost RIGHT	750 mm	Steel ZC SS	DP4000-0750-FU1CRYE DP4000-0750-FU1CRYEZ DP4000-0750-FU1CRYES	
		751-1750 mm	Steel ZC SS	DP4001-1750-FU1CRYE DP4001-1750-FU1CRYEZ DP4001-1750-FU1CRYES	
	Post LEFT <i>Up</i> <i>Down</i> <i>Continu</i>	750 mm	Steel ZC SS	DP4002-0750-FU1CLYE DP4002-0750-FU1CLYEZ DP4002-0750-FU1CLYES	
		751-1750 mm	Steel ZC SS	DP4002-1750-FU1CLYE DP4002-1750-FU1CLYEZ DP4002-1750-FU1CLYES	
	Post RIGHT <i>Up</i> <i>Down</i> <i>Continu</i>	750 mm	Steel ZC SS	DP4002-0750-FU1CRYE DP4002-0750-FU1CRYEZ DP4002-0750-FU1CRYES	
		751-1750 mm	Steel ZC SS	DP4002-1750-FU1CRYE DP4002-1750-FU1CRYEZ DP4002-1750-FU1CRYES	
2 curves	-	750 mm	Steel ZC SS	DP4000-0750-FU2CYE DP4000-0750-FU2CYEZ DP4000-0750-FU2CYES	
		751-1750 mm	Steel ZC SS	DP4001-1750-FU2CYE DP4001-1750-FU2CYEZ DP4001-1750-FU2CYES	