

TB 400 DOUBLE PLUS

SAFETY BARRIERS

Revision: 30 May 2024 5:04 PM
Boplan reference: DP4000-...



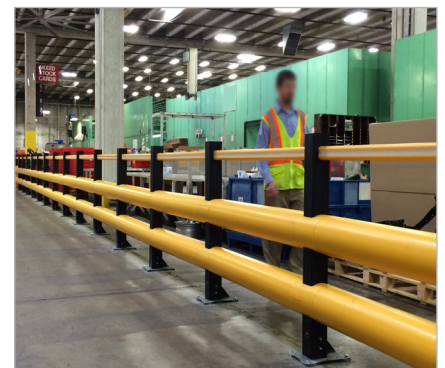
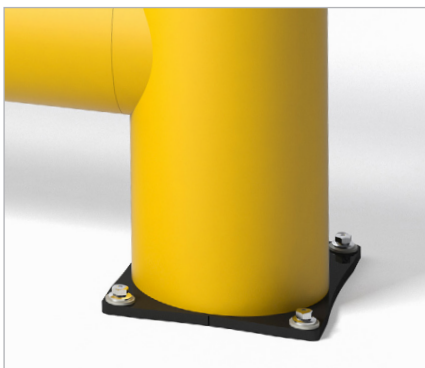
PRODUCT SPECIFICATIONS

APPLICATION			
Environment	Double guardrail with extra handrail to separate heavy vehicles from pedestrian zones.		
Impact performance at 90°	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	Extrilene® - UV resistant - Fire class E® - Non conductive - Impervious to most chemicals**		
Caps	Sustainable elastomer		
STANDARD COLOURS			
End post	Yellow RAL 1003		
Mid post	Black RAL 9005		
Impact tube	Yellow RAL 1003		
Handrails	Yellow RAL 1003		
BASEPLATES			
	Steel	Zinc Coated Steel	Stainless steel
Material	Steel 37	Steel 37	Stainless steel 304
Coating	Lacquered	Electroplated + Laquered	No lacquer / No coating
Colour	High gloss black	Mat black	Natural colour

**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		Ø18mm (M12) x 130mm	Ø18mm (M12) x 130mm
	Anchor rod (Chemical)		M16 x 120mm + Chemical resin	M16 x 120mm + Chemical resin
ALTERNATIVES	Concrete screw		Ø17mm x 130mm	Not available
	Asphalt anchor		Bolt M16 x 50mm + Screw Ø22 x 100mm	Not available



FEATURES AND FUNCTIONALITY - TB 400 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 thick) Mid Post: 220 mm x 300 mm x (12 mm thick)

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.

boplan **IMPACT LABEL FOR SAFETY BARRIERS**

BOPLAN TB 400 DOUBLE PLUS		
IMPACT RATING	45°	90°
E80 < 80 kJ	55,3 kJ	39,1 kJ
E60 < 60 kJ		
E50 < 50 kJ		
E40 < 40 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

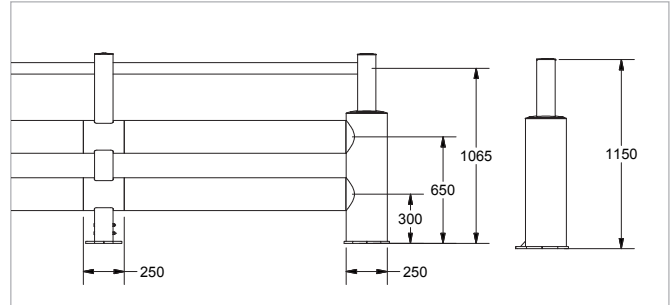
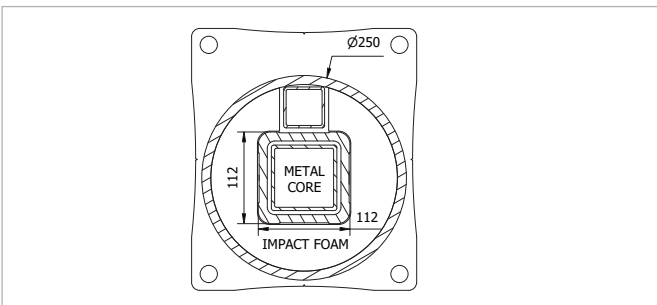
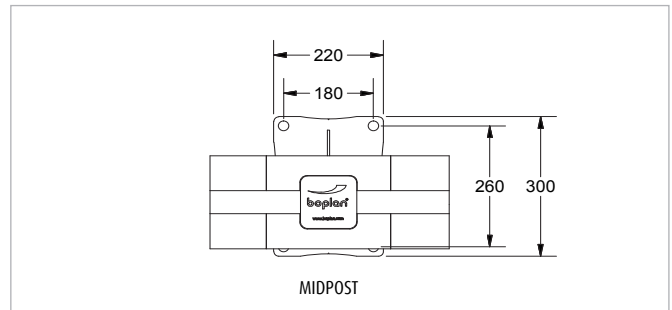
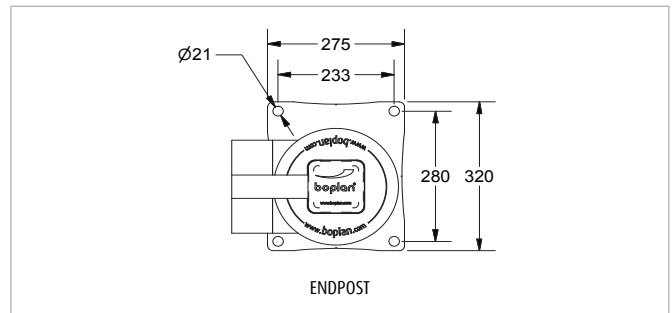
TEST VEHICLE

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

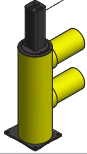
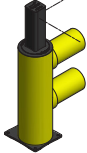
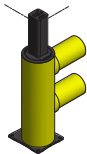
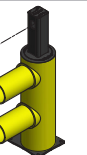
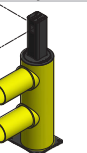
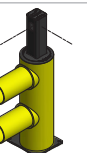
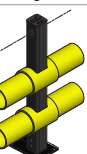
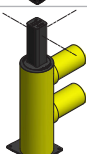
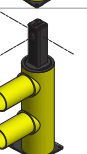
ACCREDITED TEST LABORATORY

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

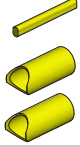
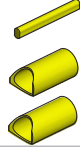
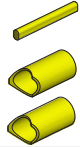
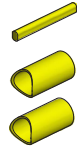
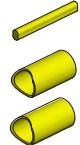
SUCCESS CRITERIA VEHICLE STOPPED - ASI (ACCELERATION SEVERITY INDEX) < 0.5



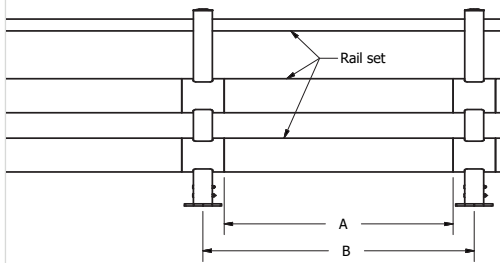
REFERENCE LIST - TB 400 DOUBLE PLUS

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

*2 Caps included to close handrail hole

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	

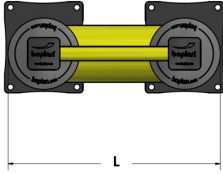
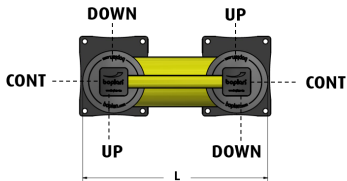
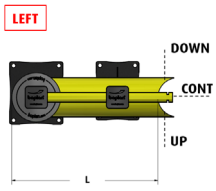
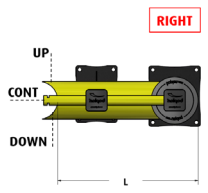
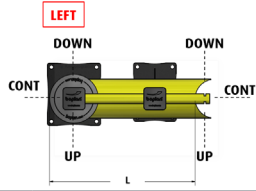
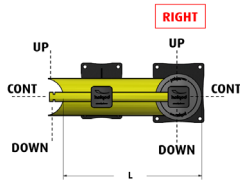
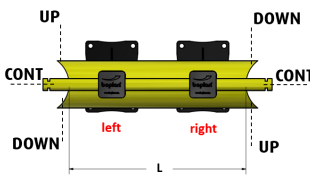
RAIL SETS			
	Tube length (A)	CC length (B)	Reference
Standard rail	750 mm	1000 mm	DP4000-0750-1000YE
Standard rail	950 mm	1200 mm	DP4000-0950-1200YE
Standard rail	1150 mm	1400 mm	DP4000-1150-1400YE
Standard rail	1350 mm	1600 mm	DP4000-1350-1600YE
Standard rail	1550 mm	1800 mm*	DP4000-1550-1800YE
Standard 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 diagram shows a cross-section of a rail set with two vertical posts. Dimension A is the distance between the inner faces of the posts, and dimension B is the distance between the outer faces of the posts. The rail set is shown in a perspective view.

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

REFERENCE LIST - TB 400 DOUBLE PLUS

FIXED UNITS					
TYPE	LENGTH	BASE	REFERENCE YE		
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	