SPECSHEET

TB 550 PLUS FENCE BOPLAN CAR PARK BARRIER SPECIFICATION SHEET

Revision: 4 September 2020 2:09 PM

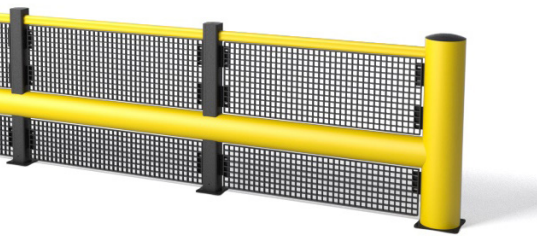
Boplan reference: TA5500

PRODUCT SPECIFICATIONS

APPLICATION	
Environment	Perimiter edge protection in Multi-Storey Car Parks / Surface Car Parks / Access Ramps etc.
MATERIAL	
Posts and rails	Polyolefin - UV resistant - Fire class E* - Non conductive - Impervious to most chemicals**
Caps	SEBS rubber
Mesh panel	Glass fiber reinforced composite
STANDARD COLORS	
End post / Mid post / Rails	Yellow
Mesh panel	Black

BASEPLATES			
	Steel / Non-countersunk Steel / Countersunk	ZC / Non-countersunk ZC / Countersunk	SS / Non-countersunk SS / Countersunk
Material		Steel 37	
Coating	on request	Lacquered + electro plating	on request
Color		Matt 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	Wedge anchor		M12 x 120mm	Not available
	Wedge anchor Countersunk		Not available	Not available
ALTERNATIVES	Anchor rod (Chemical)		M12 x 120mm + Chemical resin	Not available
	Concrete screw		Ø12mm x 100mm	Not available
	Asphalt anchor		Bolt M10 x 40mm + Screw Ø16mm	Not available
	Spit anchor		Bolt M12 x 100mm + Plug Ø20mm	Not available

FEATURES AND FUNCTIONALITY

SIZE	
Height end posts	1160 mm
Height mid post	1150 mm
Profile section tubes	Ø200 mm (11 mm thick)
Profile section end posts	Outer tube: Ø250 mm (11 mm thick) Inner profile: 112mm x 112 mm (10 mm thick)
Profile section mid posts	Profile: 112 mm x 112 mm (10 mm thick)
Standard rail length	1350 mm (1600mm center - center)
Baseplate	End Post: 275 mm x 275 mm (10mm thick) Mid Post: 180 mm x 180 mm (10mm thick)
Mesh inner dimension	33 mm x 33 mm
Mesh wall thickness	5 mm
Mesh panel total thickness	15 mm

REQUIREMENTS	
Concrete quality	minimum C25/30
Concrete floor plate thickness	minimum 150 mm
Concrete slab dimension around posts (mm)	600 (h) x 600 (w) x 500 (d)
Operational temperature	0°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 TB550

IMPACT RATING - 90°		END POST	MID POST	RAIL CC1600MM
E2	< 2,5 KJ			
E5	< 5,0 KJ			
E10	< 10 KJ			
E15	< 15 KJ	13,5 KJ	13,5 KJ	
E20	< 20 KJ			18,3 KJ
E25	< 25 KJ			
E30	< 30 KJ			
E35	< 35 KJ			
E40	< 40 KJ			
E50	< 50 KJ			

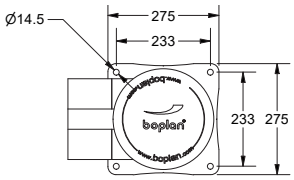
IMPACT SPECIFICATIONS TEST

TEST CONDITIONS
TEMPERATURE: 20°C
IMPACT HEIGHT: 460 mm
IMPACT ANGLE: 90°
TEST FLOOR: CONCRETE C25/30 - 160 mm
MANUFACTURER ANCHOR PULL OUT: 7,9 kJ

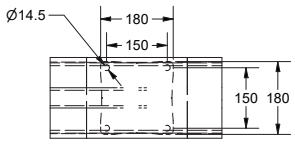
TEST VEHICLE
WEIGHT: 2300 KG
TYPE: COMMERCIAL FORK LIFT
SIZE (L x W x h): 1890 x 1020 x 1970 mm
CONTACT AREA: STEEL BUMPER WIDTH: 600 mm

ACCREDITED TEST LABORATORY
620 Route des Fromentaux
01500 Saint-Maurice-de-Rémens
01360 Béligneux
France

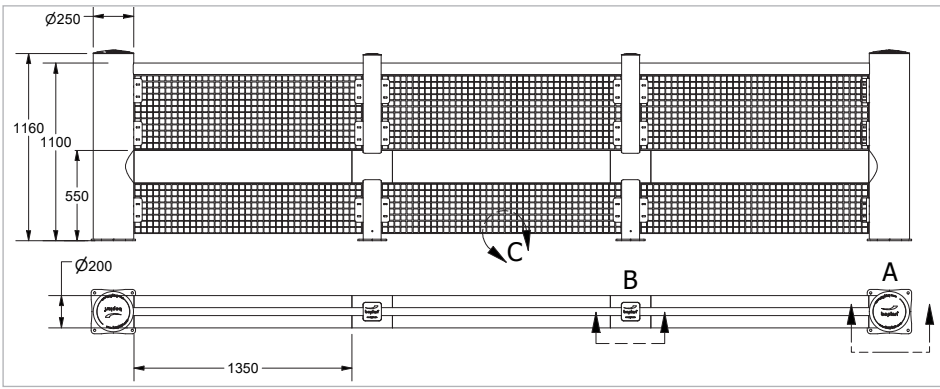
SUCCESS CRITERIA VEHICLE STOPPED - ASI (ACCELERATION SEVERITY INDEX) < 0.5

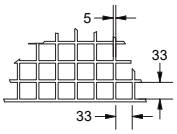


DETAIL A
SCALE 1/10
END POST



DETAIL B
SCALE 1/10
MID POST





DETAIL C
SCALE 1 /8

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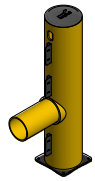
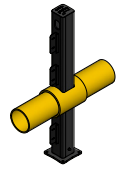
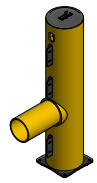
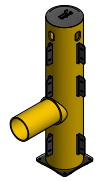
FEATURES AND FUNCTIONALITY

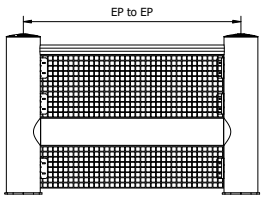
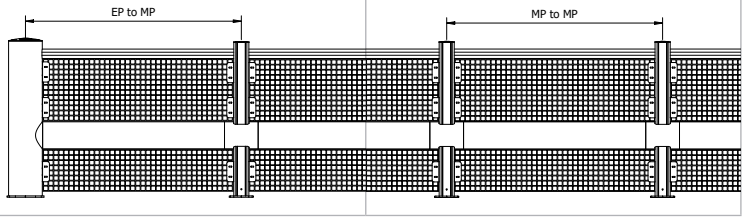
POSTS

End post - ZC - YE	TA5500-0001-EPYEZ	
Mid post - ZC - YE	TA5500-0001-MPYEZ	
Corner post 90° - UP - YE	TA5500-0001-CPUYEZ	
Corner post 90° - DOWN - YE	TA5500-0001-CPDYEZ	

CURVES

Conn.tube Ø250 - 90° Curve 350mm - YE	TA0500-0350-C259YE	

STANDARD RAIL SETS

Tube length	CC length	End post to End post	End post to Mid post	Mid post to Mid post
1350 mm	1600 mm	TA5500-1350-1600YE	TA5501-1350-1600YE	TA5502-1350-1600YE
1200 mm	1450 mm	TA5500-1200-1450YE	TA5501-1200-1450YE	TA5502-1200-1450YE
1050 mm	1300 mm	TA5500-1050-1300YE	TA5501-1050-1300YE	TA5502-1050-1300YE
900 mm	1150 mm	TA5500-0900-1150YE	TA5501-0900-1150YE	TA5502-0900-1150YE
850 mm	1000 mm	TA5500-0850-1000YE	TA5501-0850-1000YE	TA5502-0850-1000YE
600 mm	850 mm	TA5500-0600-0850YE	TA5501-0600-0850YE	TA5502-0600-0850YE
				

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PRODUCT COMPLIANCE

BS6399 - part 1: 1996

In short	This British Standard defines how to calculate the minimum horizontal force required to be withstood by a vehicle barrier.
Assumptions	m: mass car: 1500 kg v: speed car: 4.5 m/s (=16.2 km/h) D_c: Deformation of car bumper : 100 mm D_b: Deformation of barrier: 500 mm Minimum car bumper height: 375 mm Width of impact vehicle: 1500 mm
force (F)	According to the standard, two methods are described to calculate the minimum force a vehicle barrier needs to withstand: 1/ for rigid barriers 2/ for flexible barriers Since Boplan barriers are flexible, the second method is used. The formula to calculate the force: $F = (0.5 \times m \times v^2) / (D_c + D_b)$ $F = 0.5 \times 1500 \times 4.5^2 / (100 + 500)$ $F = 25$ kN The BS6399 describes 3 different minimum force requirements for parking barriers: 1/2 x Force: Where safety barriers protect both sides of parking ramps. 1x Force: All other safety barrier areas. 2 x Force: Where safety barriers are exposed to a potential run-up area, in a straight length, of more than 20 meters.
1 x force	25 kN
2 x force	50 kN
1/2 force	12.5 kN
CONCLUSION	The Boplan Armco barrier has been positively tested against the 3 force levels and is therefore fully compliant with BS6399.

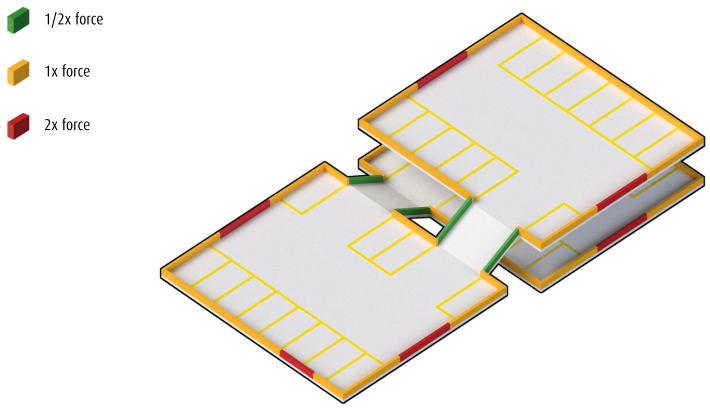
BS6180:1995

In short	This British standard predates the BS6399 and has the below requirements.
Minimum height barrier	1100 mm
Maximum gap (where a sphere can pass through)	100 mm
Minimum handrail loading (force)	1.5 kN
Minimum infill panels loading (force)	1.5 kN
CONCLUSION	The Boplan Armco barrier is fully compliant with BS6180:1995

Other recommendations

In short	A recommendation published in 2002 by the British Institute of Civil Engineers (ICE)
Minimum impact height	445 mm
Anti-climb barrier	The barrier should be designed in such a way that it is not possible to climb it.
CONCLUSION	Also here the Boplan Armco barrier fulfils the recommendations.

SAFETY BARRIER STRENGTH REQUIREMENTS FOR PARKINGS ACCORDING TO BS6399



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