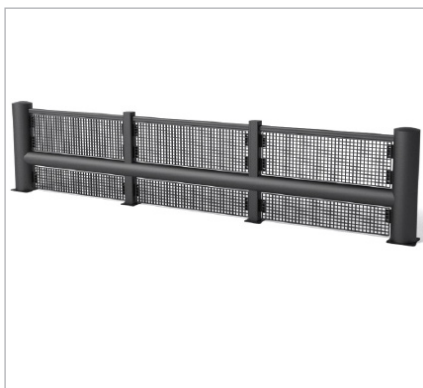


TB ARMCO PLUS FENCE BOPLAN CAR PARK BARRIER

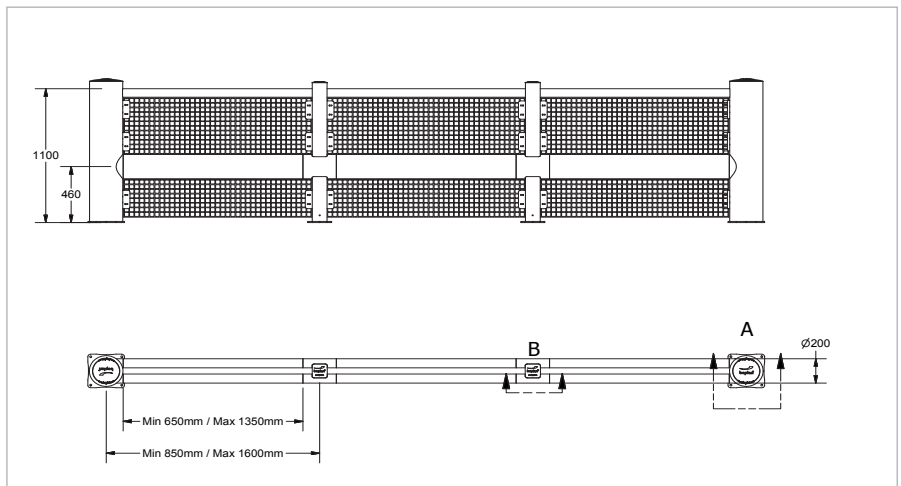
Revision: 10 October 2017 2:29 PM

Boplan reference: TA5500



PRODUCT SPECIFICATIONS

SIZE	
Height posts	1150 mm
Handrail length	1600 mm center (center - center dimension)
Mesh inner dimension	33 mm x 33 mm
Mesh wall thickness	5 mm
Mesh panel total thickness	15 mm
Baseplate end post	275 mm x 275 mm (10 mm thick); 233 mm screw pitch
Baseplate mid post	180 mm x 180 mm (10 mm thick); 150 mm screw pitch
MATERIAL	
Posts and rails	Polyolefin UV resistant - Non/conductive. Impervious to most chemical products
Mesh	Glass fiber reinforced composite
Baseplate	Zinc coated
Anchors	Zinc coated
COLORS	
Mid posts	Black
Rails - Tubes - End posts	Black, Grey, Yellow
Mesh	Black
USAGE	
Environment	Indoor and outdoor use
Working Temperatures	-20°C up to +40°C For application at lower temperatures, contact your local sales office.



FEATURES AND FUNCTIONALITY

APPLICATION	
Protection	Perimeter edge protection in Multi-Storey Car Parks / Surface Car Parks / Access Ramps etc.
Advantages	<ul style="list-style-type: none"> Minimal damage to vehicle when impacting Car Park Fence. Low risk of injury to vehicle driver due to energy absorbing qualities Energy absorbing qualities mean reduced load transfer into concrete upstand / deck No degrading of the material because of UV - resistant polymers used. Anti climb mesh. Remains in good shape because of polymers that are colored in the mass (scratches are not visible) Low maintenance
Maintenance	Wipe clean with damp cloth or power washer if necessary
IMPACT RESISTANCE	
Designed for impact	Impact absorption and resistance positively tested in real life circumstances with certified testing lab. Impact height is 450mm
Maximum energy absorption on rails	10000 Joule
Maximum energy absorption on posts	10500 Joule

REQUIREMENTS	
Floor requirements	Minimum slab depth: 150mm Minimum slab edge distance: 140mm
FIXATIONS	
Type	M12 x 112 mm Torque controlled expansion anchors for use in concrete
Number per post	4
Minimum installation torque	50 Nm
Pull out capacity (per fixation in non-cracked concrete C20/25)	12 kN
Shear load for static loading (according ETAG 001 - Annex c - steel failure without leverage arm)	23 kN
APPENDIX	
Test Report	Available
Technical Drawing	Available
Installation Sheet	Available

REFERENCES	YELLOW	GREY	BLACK
ENDPOST	TA5500-0010-0000YE	TA5500-0010-0000GR	TA5500-0010-0000BL
MIDPOST	TA5500-0020-0000YE	TA5500-0020-0000GR	TA5500-0020-0000BL
STD RAILS (tube + mesh + handrail)	TA5500-0100-1350YE	TA5500-0100-1350GR	TA5500-0100-1350BL



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: $F = (0.5 \times m \times v^2) / (D_c + D_b)$ $F = 0.5 \times 1500 \times 4.5^2 / (100 + 500)$ $F = 25 \text{ kN}$ 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.

