



TEE-P BOLLARD DATA SHEET

2000.0000-Td-0201aen_rev2

Rev.	Date	Description	Prepared	Checked	Approved
0	27/12/2013	First Issue	BFA	DBL	GEB
1	12/03/2015	General Revision	BFA	DBL	GEB
2	29/04/2015	General Revision	BFA	DBL	GEB



1. BOLLARD TEE-P

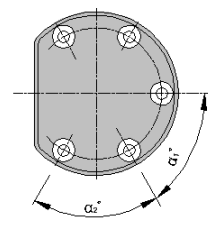
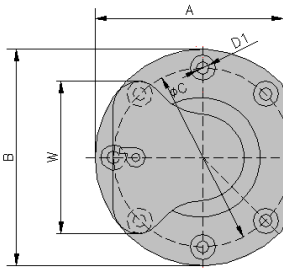
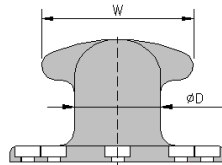
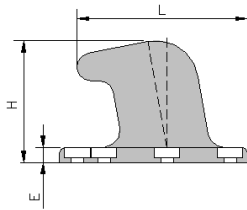


High quality casting material

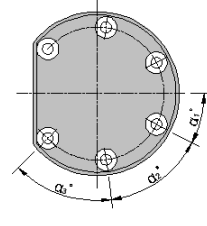
Strong and durable design

Low maintenance

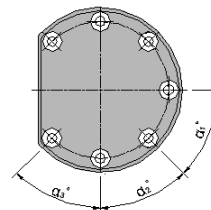
Large mooring range angle



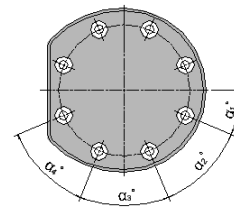
5 ANCHORAGES



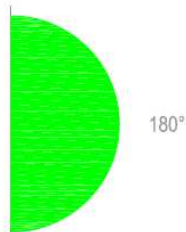
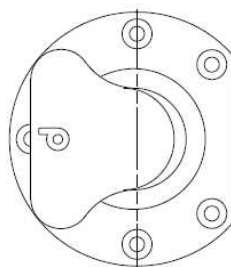
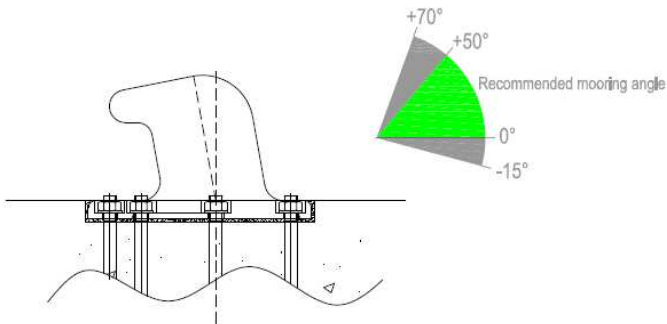
6 ANCHORAGES



7 ANCHORAGES



8 ANCHORAGES



Bollard summary		
Type:	TEE-P	
Safety Work Load:	See Table Below	
Mooring Range:	Vertical: -15° to +70°	
	Horizontal: 180°	
Material (according to the project)		
Type:	Ductile Iron	Cast steel
Quality:	ASTM A-536. GRADE 80-55-06 **	BS 3100. Gr A 5
Properties	Yield Strength : >379 MPa	Yield Strength : >370 MPa
	Tensile Strength: >552 MPa	Tensile Strength: >620 MPa
	Elongation: > 6 %	Elongation: > 13 %
Anticorrosive Treatment		
Treatment:	Painted	
Scheme:	Abrasive Blasting. Degree of cleanliness Sa 2 ½ (ISO 8501.1)	
	Surface roughness of 30-75µ (EN ISO 8503)	
	2 Coats of epoxy polyamide HEMPADUR 45143**	
Dry Film Thickness:	> 320 µ	
Colour:	Black, RAL 9005	
Quality Control		
Material Certificate:	3.1,Acc EN 10204	

Anchorage summary		
Type:	New Concrete/Old Concrete/Through	
Metric:	See Table Below	
Material		
Type:	Steel	
Quality:	C45E. EN10083 **	
Properties:	Yield Strength : ≥ 305 MPa	
	Tensile Strength: 580 MPa	
	Elongation: ≥ 16 %	
Anticorrosive Treatment (according to the project)		
Treatment:	Hot Dip Galvanized, Acc ISO 1461	Without anticorrosive treatment
Thickness:	≥ 85 µ	
Quality Control		
Material Certificate:	3.1,Acc EN 10204	

** Or equivalents

Dimension (mm)	Bollard Capacity (Tn)									
	15	30	50	75	100	150	200	250	300	
Weight(kg):	35	60	140	195	280	470	765	1060	1445	
A:	395	425	575	670	744	898	1113	1280	1475	
B:	450	490	650	750	850	1020	1150	1325	1520	
C:	360	380	530	610	705	830	954	1100	1260	
C1:	60°	60°	60°	55°	45°	45°	45°	45°	45°	
D	165	195	270	310	340	390	440	500	580	
D1:	32	38	48	50	53	68	74	75	88	
E:	28	36	50	55	60	70	80	85	90	
H:	265	290	400	445	480	530	610	695	790	
L:	350	380	500	595	673	809	1024	1177	1409	
W:	340	360	500	550	600	700	800	920	1060	
Anchorages										
Metric:	M24	M30	M39	M42	M45	M56	M60	M64	M72	
New concrete	Length (mm):	≥450	≥500	≥550	≥600	≥650	≥700	≥750	≥800	≥850
	Length Embedded(mm):	405	445	485	555	575	605	645	685	725
	Weight(kg):	2.3	4.6	8	12	13	22	29	38	45
Old concrete	Length (mm):	≥450	≥500	≥550	≥630	≥650	≥790	≥860	≥980	≥1080
	Length Embedded(mm):	405	445	485	555	575	695	755	865	955
	Weight(kg):	1.8	3.3	5.5	8	9	17	22	28	38
Number of anchorages:	5	5	5	6	7	7	8	8	8	
α1:	60°	60°	60°	27.5°	45°	45°	22°	22°	22°	
α2:	60°	60°	60°	55°	45°	45°	45°	45°	45°	
α3:	-	-	-	55°	45°	45°	45°	45°	45°	
α4:	-	-	-	-	-	-	45°	45°	45°	