

## TECHNICAL DATA SHEET

**PRODUCT : RUBBER FENDERS**  
**MATERIAL : NR/SBR**

NO	TEST DESCRIPTION	ASTM METHOD	SPECIFICATION
1.	Material	-----	NR / SBR
2.	Specific Gravity.	-----	1.45
3.	Hardness. ° SA	D 2240	72± 5
4.	Tensile Strength (Kg/cm2 Min)	D412	160
5.	Elongation at Break(% Min)	D412	350
6.	Tear Resistance- Die C (N/mm min)	D624	70
7.	Compression Set at 24 hrs @ 70 Deg C (158 deg F) % Max	D395	25
8.	Ageing Resistance 70 hrs @ 100 deg C(212 deg F)	D573.	
8.1	Change in Hardness.(Points)	D573	+8
8.2	Change in Tensile Strength ( % )	D573	-20
8.3	Change in Elongation at Break.	D573	- 20
9.	Oil Resistance at 8 hrs @ 40 Deg C	D471	
9.1	Heavy Oil		Volume Increase 100%
10.	Industrial Gasoline		Volume Increase 100%
<p><b>REMARKS:</b> These test's values are obtained at normal laboratory condition. Results may vary from one laboratory to another laboratory by 5% to 10%</p>			

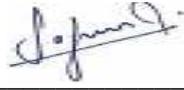


## MATERIAL TEST CERTIFICATE

**PRODUCT : D-FENDER**  
**SIZE : 250MM X 250MM X 1 METER LENGTH**  
**WITH MS CHANNEL & STUDS**

NO	TEST DESCRIPTION	ASTM METHOD	SPECIFICATION	LAB. OBSERVATION
1.	Material	-----	NR / SBR	NR / SBR
2.	Specific Gravity.	-----	1.15	1.15
3.	Hardness. ° SA	D 2240	72± 5	74
4.	Tensile Strength (Kg/cm2 Min)	D412	160	210
5.	Elongation at Break(% Min)	D412	350	400
6.	Tear Resistance- Die C (N/mm min)	D624	70	95
7.	Compression Set at 24 hrs @ 70 Deg C (158 deg F) % Max	D395	25	22
8.	Ageing Resistance 70 hrs @ 100 deg C(212 deg F)	D573		
8.1	Change in Hardness.(Points)	D573	+8	+6
8.2	Change in Tensile Strength ( % )	D573	-20	-16
8.3	Change in Elongation at Break.	D573	- 20	-18
9.	Oil Resistance at 8 hrs @ 40 Deg C	D471		
9.1	Heavy Oil		Volume Increase 100%	100%
10.	Industrial Gasoline		Volume Increase 100%	100%

**REMARKS:** These test's values are obtained at normal laboratory condition. Results may vary from one laboratory to another laboratory by 5% to 10%

<b>Test Cert. Ref. No:</b> HI/DF-001	<b>Prepared By:</b>  Quality Inspector	<b>Approved By:</b>  Quality Sr. Engineer
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## TECHNICAL DATA SHEET

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**PRODUCT : RUBBER D-FENDER**  
**SIZE : 150MM X 150MM X 1 METER LENGTH**  
**WITH SS 316 SLOTTED PLATES**

### A. RUBBER PROPERTIES

NO	TEST DESCRIPTION	ASTM METHOD	SPECIFICATION
1.	Material	-----	NR / SBR
2.	Specific Gravity.	-----	1.45
3.	Hardness. ° SA	D 2240	72± 5
4.	Tensile Strength (Kg/cm2 Min)	D412	160
5.	Elongation at Break(% Min)	D412	350
6.	Tear Resistance- Die C (N/mm min)	D624	70
7.	Compression Set at 24 hrs @ 70 Deg C (158 deg F) % Max	D395	25
8.	Ageing Resistance 70 hrs @ 100 deg C(212 deg F)	D573.	
8.1	Change in Hardness.(Points)	D573	+8
8.2	Change in Tensile Strength ( % )	D573	-20
8.3	Change in Elongation at Break.	D573	- 20
9.	Oil Resistance at 8 hrs @ 40 Deg C	D471	
9.1	Heavy Oil		Volume Increase 100%
10.	Industrial Gasoline		Volume Increase 100%

### B. STAINLESS STEEL METAL PROPERTY: GRADE: 316 L TYPE: Cold Rolled Sheet

No	Description	Test Method	UNIT	Spec.
1	Tensile Strength, min.	EN 10204:2004-30.1/ ASTM A240M-2010	MPa	≥ 430
2	Yield Strength	EN 10204:2004-30.1/ ASTM A240M-2010	MPa	≥ 250
3	Maximum Extensibility	EN 10204:2004-30.1/ ASTM A240M-2010	A%	≥ 23
4	Hardness	EN 10204:2004-30.1/ ASTM A240M-2010	HRB	≥ 70

**REMARKS:** These test's values are obtained at normal laboratory condition. Results may vary from one laboratory to another laboratory by 5% to 10%

