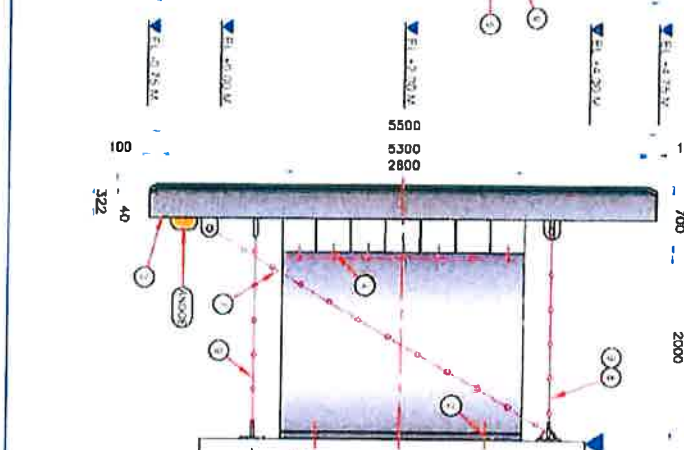
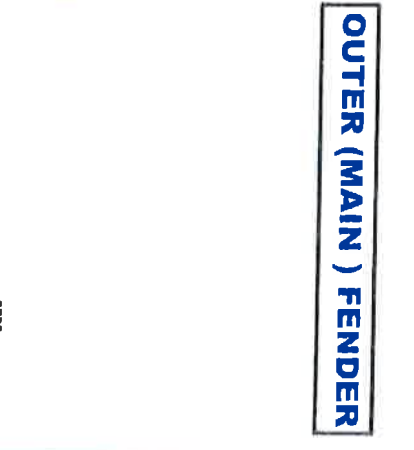
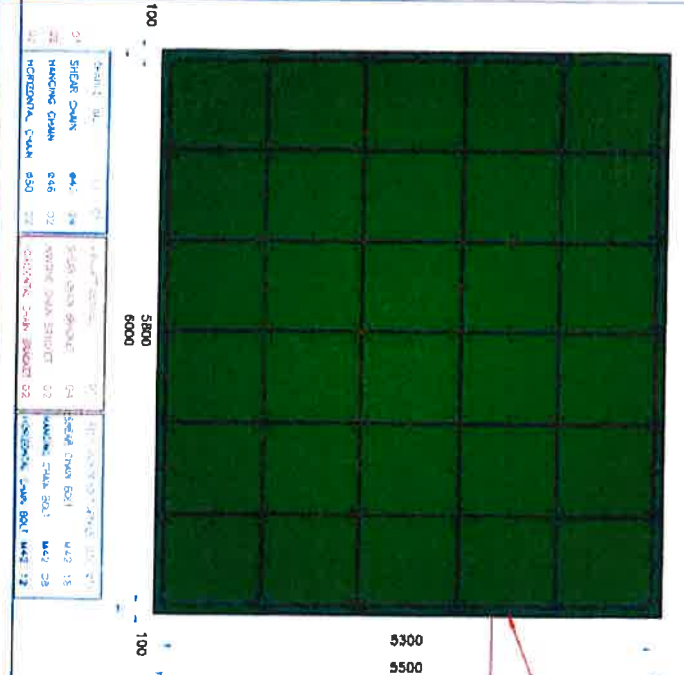
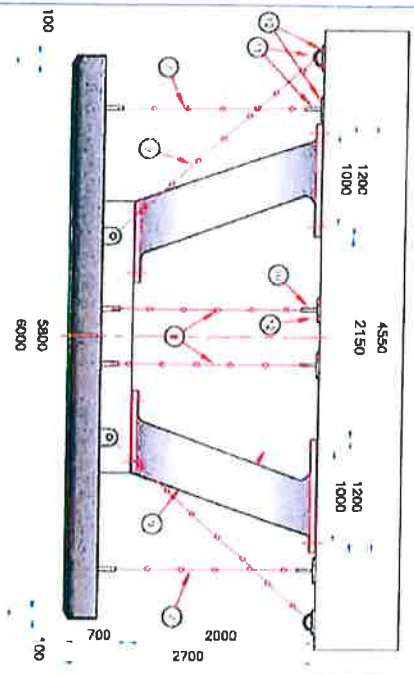


OUTER (MAIN) FENDER



Sr.	DESCRIPTION	MATERIAL	QTY.	SIZE
13	ANODE	ALUMINIUM	06	AS PER REQ
12	BRACKET FIXING BOLT (RESIN TYPE)	GR. A. B (H06)	36	M42
11	CHAIN BRACKET FOR SHEAR CHAIN & HORIZONTAL CHAIN	M5 (H06)	06	AS PER REQ.
10	CHAIN BRACKET FOR HANGING CHAIN	M5 (H06)	02	AS PER REQ.
09	SHEAR CHAIN	GRADE 3 (H06)	04	442
08	HORIZONTAL CHAIN	GRADE 3 (H06)	02	450
07	HANGING CHAIN	GRADE 3 (H06)	02	446
06	FACIA PAD FIXING BOLT	SS 316	06	M16
05	FACIA PAD	UHMW-PE (GREEN)	06	40 THICK
04	FENDER TO FRAME FIXING BOLT	GR. A. B (H06)	24	M42
03	FRONTAL FRAME (OPEN BOX TYPE)	BS EN 10025 S355	07	6000 x 5500 x 322
02	RESIN ANCHOR BOLT	SS 316 S33	14	M48
01	RUBBER FENDER	RUBBER & STEEL	02	DM-2000H-2850L

BILL OF MATERIAL FOR ONE ASSEMBLY IN OUR SCOPE

PERFORMANCE OF OUR "DIPT" IV ELEMENT FENDERING SYSTEM - SIZE : 2000H x 2600 L

DEFLECTION	60%
REACTION FORCE	4568 KN (=476 TON)
ENERGY ABSORPTION	4366 KJ/M (=445 TON.M)
HULL PRESSURE	1152 KN/M ² TOLERANCES ±10%

NOTES :

- ALL DIMENSIONS ARE IN MM., UNLESS OTHERWISE STATED
 - RUBBER AS PER A.S.T.M. D-2000-12, AAA, 717, A13, B33, C12, K11, Z
 - STEEL PLATE AS PER BS EN 10025 S355 OR EQUIVALENT
 - ALL CHAIN SHALL BE STUD LESS GRADE 3 & HOT DIP GALVANIZED
 - FACIA PADS WILL BE OF UHMW PE (COLOUR : GREEN)
 - SACRIFICIAL ANODES SHALL BE PROVIDED FOR CORROSION PROTECTION.
 - MANUFACTURING DIMENSIONAL TOLERANCES FOR RUBBER : -2% AND +4%
- PAINTING : (COLOUR : BLACK)**
- FRONTAL FRAME WILL BE SAND BLASTED AS PER SA 2.5
 - FRAMES : ZINC RICH EPOXY PRIMER (75 MICRONS)
 - FINISH : HIGH BUILD EPOXY PAINT (2 COAT x 125 = 250 MICRONS)
 - TOTAL : ONE LAYER OF FINISHING OF MINIMUM 50 MICRON
 - TOTAL DPT : 175 MICRONS (MIN.)

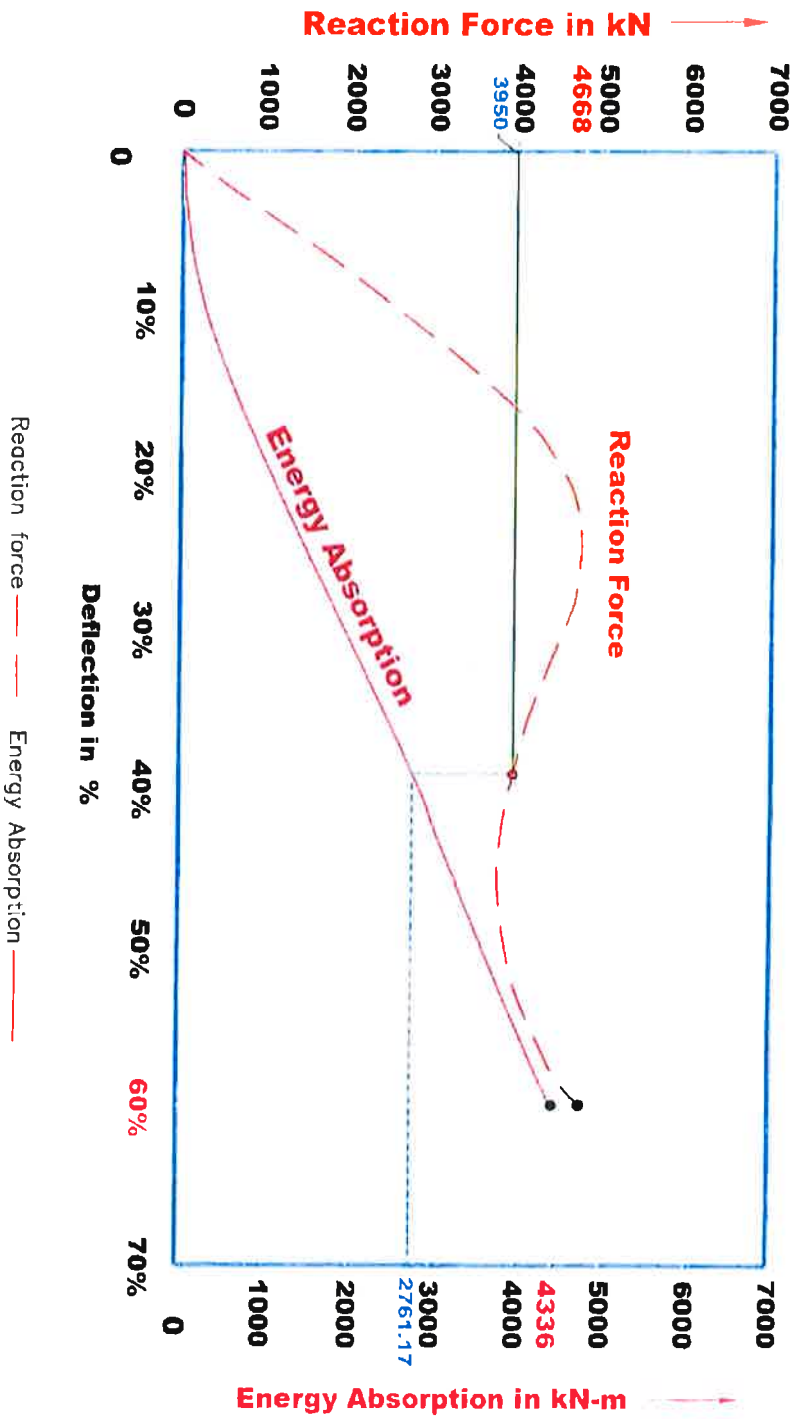
NO.	DESCRIPTION	QTY.	UNIT	REMARKS
01	SHEAR CHAIN	04	NO.	GRADE 3 (H06)
02	HANGING CHAIN	02	NO.	GRADE 3 (H06)
03	HORIZONTAL CHAIN	02	NO.	GRADE 3 (H06)
04	SHEAR CHAIN BOLT	04	NO.	M42
05	HANGING CHAIN BOLT	02	NO.	M42
06	HORIZONTAL CHAIN BOLT	02	NO.	M42



PERFORMANCE CURVE OF OUR "DIPTI" DIVM FENDERING SYSTEM

Model No.: DIVM 2000H X 2600L

Deflection	Reaction Force	Energy Absorption	Tolerance
60%	4668 KN	4336 KN.M.	±10%





**LOAD DEFLECTION TEST REPORT AS PER PLAN
FOR DIVM-2000H "DIPTI" IV ELEMENT FENDER**

Insp. Rept. No.: IRMOME/I.DR/DIVM-2000X2.6/09&10/1/18-19 **DATE:** 27.09.2018
Client: DESFA
P.O No.: BV049 dated 02.01.2018
Project: Upgrade of Revithoussa LNG terminal Marine
Drawing No.: DIVM-2000H/0100-B/16 Rev.00
Item Description: "DIPTI" IV Element Fendering System, Size: DIVM-2000H x 2600 mm LONG
Fender Sr No.: DIVM-2000X2.6/09 & DIVM-2000X2.6/10
Test Speed: 3.45 mm/sec
Test Temperature: 33.9 deg. **Machine Identification No:** Press No 4
Total Height of Fender: 2000 mm
Deflection: 60%

Deflection In %	Reaction / Load In Ton (Corrected To Rated Temp & Velocity) (23 Deg & 0.15 M/Sec)	Energy Absorption In Ton-Mtr (Corrected To Rated Temp & Velocity) (23 Deg & 0.15 M/Sec)
0	0.00	0.00
5	205.85	10.38
10	308.77	36.31
15	382.29	71.14
20	415.23	111.34
25	435.81	154.23
30	444.64	198.61
35	441.70	243.28
40	422.34	286.83
45	410.65	328.82
50	413.17	370.34
55	427.29	412.70
60	446.40	456.74

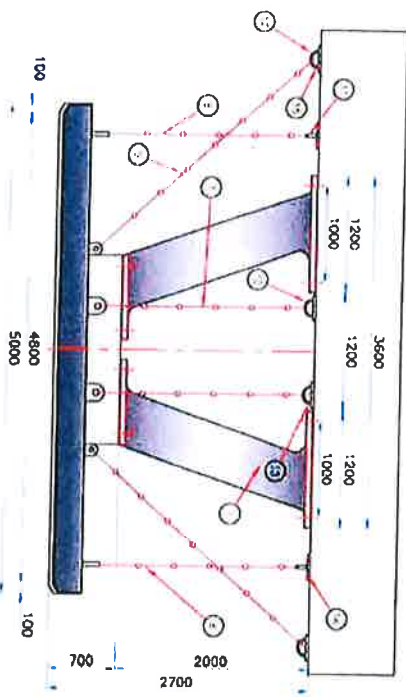
For IRMOME,

Harsh
27/09/18
Q.C. Engineer.

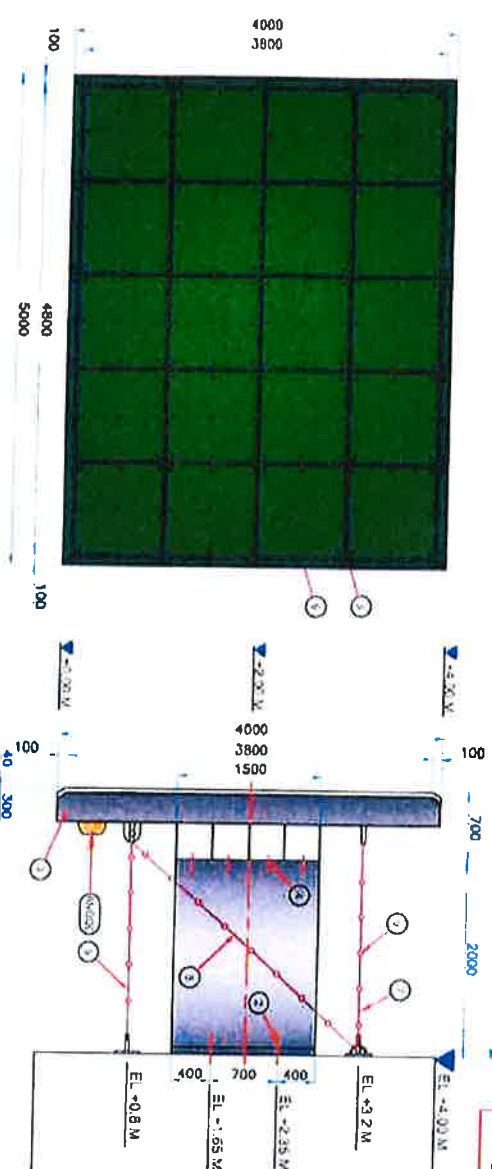
For BVIPL,

Witnessed
Signature
27 09 2018





INNER FENDER



CHAIN DETAILS	QTY	BRACKET DETAILS	QTY	RESIN ANCHOR BOLT DETAILS	SIZE	QTY
SHEAR CHAIN	030	FRONT HANG BRACKET	24	SHEAR CHAIN BOLT	M30 16	
FIXING CHAIN	036	FRONT CHAIN BRACKET	24	FIXING CHAIN BOLT	M30 06	
HORIZONTAL CHAIN	038	FRONT CHAIN BRACKET	24	HORIZONTAL CHAIN BOLT	M42 06	

SER.	DESCRIPTION	MATERIAL	QTY.	SIZE
16	ANODE	ALUMINUM	**	AS PER REQ
15	BRACKET FIXING BOLT FOR SHEAR CHAIN BRACKET (RESIN TYPE)	GR.8.8 (HDG)	16	M30
14	BRACKET FIXING BOLT FOR ANCHOR CHAIN BRACKET (RESIN TYPE)	GR.8.8 (HDG)	08	M30
13	CHAIN BRACKET FOR HORIZONTAL CHAIN BRACKET (RESIN TYPE)	GR.8.8 (HDG)	08	M42
12	CHAIN BRACKET FOR SHEAR CHAIN	M.5 (HDG)	04	AS PER REQ
11	CHAIN BRACKET FOR HANGING CHAIN	M.5 (HDG)	02	AS PER REQ.
10	CHAIN BRACKET FOR HORIZONTAL CHAIN	M.5 (HDG)	02	AS PER REQ.
09	SHEAR CHAIN	GRADE 3 (HDG)	04	430
08	HANGING CHAIN	GRADE 3 (HDG)	02	436
07	HORIZONTAL CHAIN	GRADE 3 (HDG)	02	439
06	FACIA PAD FIXING BOLT	SS 316	**	M16
05	FACIA PAD	UHMW-PE (GREEN)	**	40 THICK
04	FENDER TO FRAME FIXING BOLT	GR.8.8 (HDG)	16	M42
03	FRONTAL FRAME (GREEN BOX TYPE)	BS EN 10025 S355	01	4000 x 5000 x 300
02	RESIN ANCHOR BOLT	SS 316 S33	08	M48
01	ELEMENT RUBBER FENDER	RUBBER & STEEL	02	DIM=2000x1200x100

BILL OF MATERIAL FOR ONE ASSEMBLY IN OUR SCOPE

PERFORMANCE OF OUR "DIPT" DIVM ELEMENT FENDERING SYSTEM - SIZE : 2000H x 1500 L

DEFLECTION	60%
REACTION FORCE	2372 KN (=242 TON)
ENERGY ABSORPTION	2217 KJ/M (=226 TON.M)
HULL PRESSURE	1130 KN/M ²TOLERANCES ±10%

NOTES :

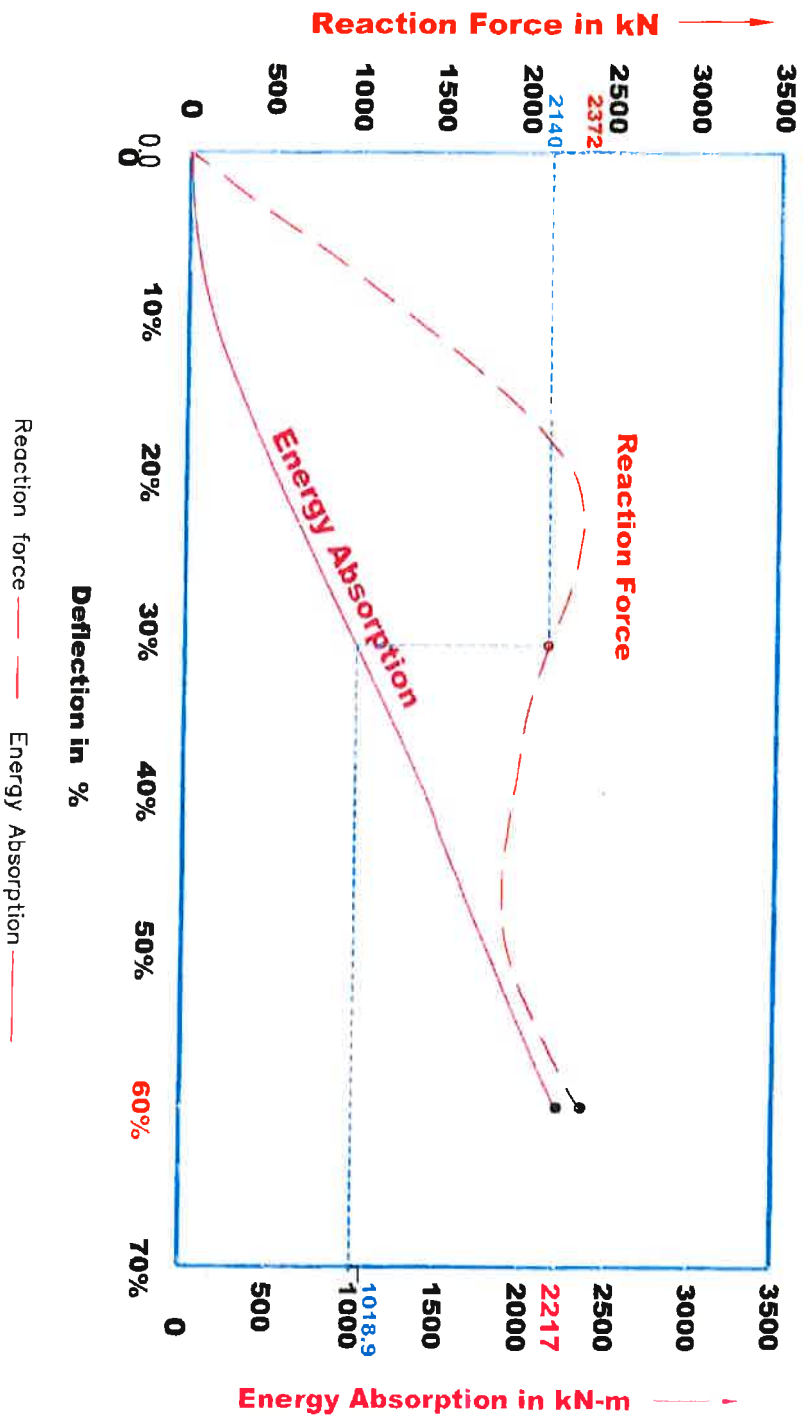
- ALL DIMENSIONS ARE IN MM, UNLESS OTHERWISE STATED.
 - RUBBER AS PER ASTM D-2000-12, 4AA, 717, A13, B33, C12, K11, 2
 - STEEL PLATE AS PER BS EN 10025 S355 OR EQUIVALENT
 - ALL CHAIN SHALL BE STUD LESS GRADE 3 & HOT DIP GALVANIZED
 - FACIA PADS WILL BE OF UHMW, PE (COLOUR : GREEN)
 - MANUFACTURING DIMENSIONAL TOLERANCES FOR RUBBER : -2% AND +4%
- PAINTING : (COLOUR : BLACK)**
- FRONTAL FRAME WILL BE SAND BLASTED AS PER SA 2.5 PRIMER
 - ZINC RICH EPOXY PRIMER (2 COAT) 250 MICRONS
 - HIGH BUILD EPOXY PAINT (2 COAT) 250 MICRONS
 - ONE LAYER OF TOP COATING OF MINIMUM 50 MICRON TOTAL CRT
 - 370 TO 380 MICRONS (MIN)



PERFORMANCE CURVE OF OUR "DIPTI" DIVM FENDERING SYSTEM

Model No.: DIVM 2000H X 1500L

Deflection	Reaction Force	Energy Absorption	Tolerance
60%	2372 KN	2217 KN.M.	±10%



**LOAD DEFLECTION TEST REPORT AS PER PLAN
FOR DIVM-2000H "DIPTI" IV ELEMENT FENDER**

Insp. Rept. No.: IRMOME/LDR/DIVM-2000X1.5/01&05/1/18-19 **DATE:-** 17.09.2018
Client: DESFA
P.O No.: BV049 dated 02.01.2018
Project: Upgrade of Revithoussa LNG terminal Marine
Drawing No: DIVM-2000H/0100-A/16 Rev.00
Item Description: "DIPTI" IV Element Fendering System, Size: DIVM-2000H x 1500 mm LONG
Fender Sr No.: DIVM-2000X1.5/01 & DIVM-2000X1.5/05
Test Speed: 3.25 mm/sec
Test Temperature: 34.3 deg. **Machine Identification No:** Press No 5A
Total Height of Fender: 2000 mm
Deflection: 60%

Deflection In %	Reaction / Load In Ton (Corrected To Rated Temp & Velocity) (23 Deg & 0.15 M/Sec)	Energy Absorption In Ton-Mtr (Corrected To Rated Temp & Velocity) (23 Deg & 0.15 M/Sec)
0	0.00	0.00
5	101.70	5.13
10	156.06	18.12
15	190.48	35.58
20	219.92	56.26
25	230.82	78.98
30	235.49	102.48
35	233.94	126.14
40	223.69	149.20
45	217.50	171.43
50	218.83	193.42
55	226.31	215.86
60	236.43	239.18



For BVIPL,

witnessed

signature

17.09.2018

signature