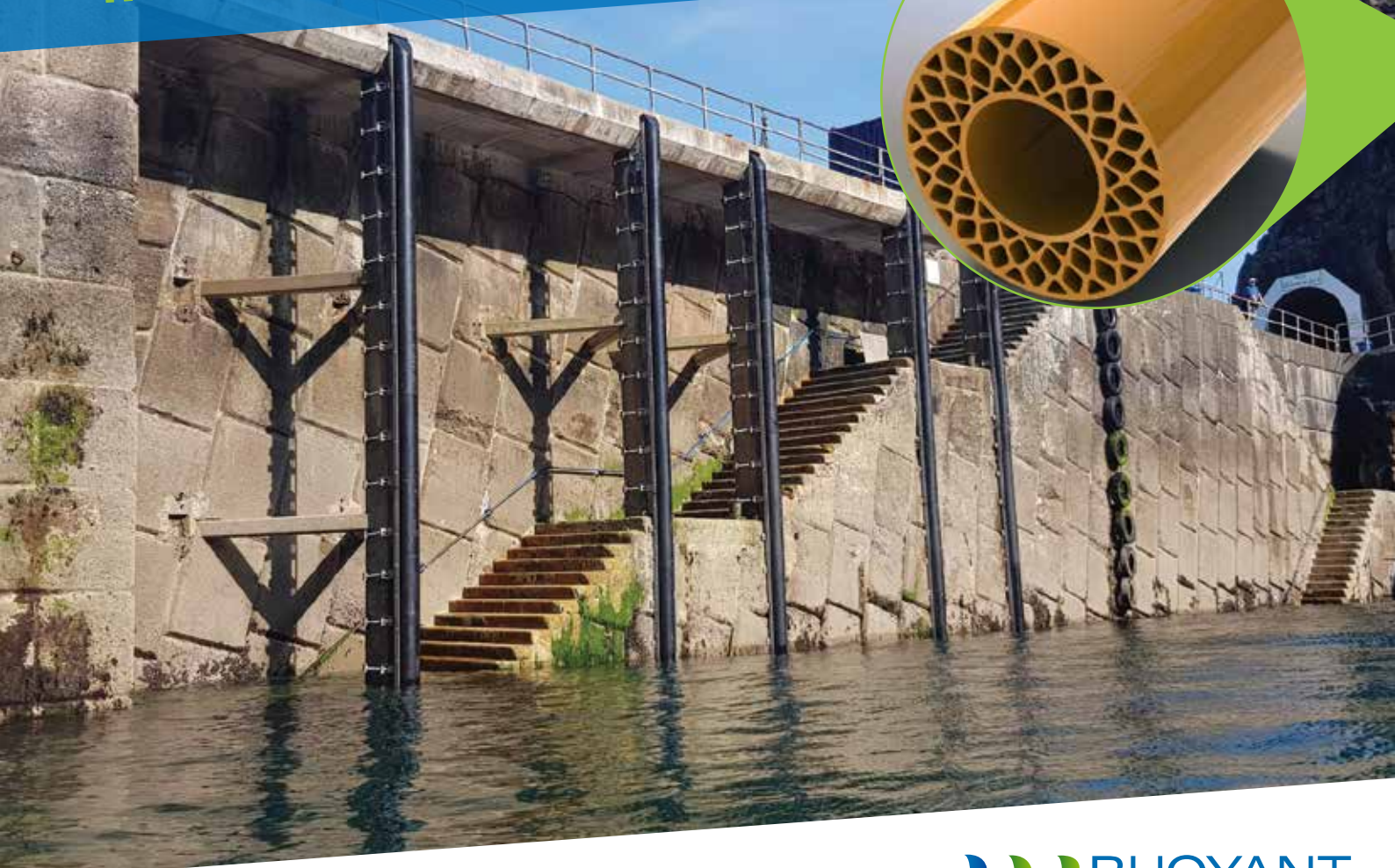
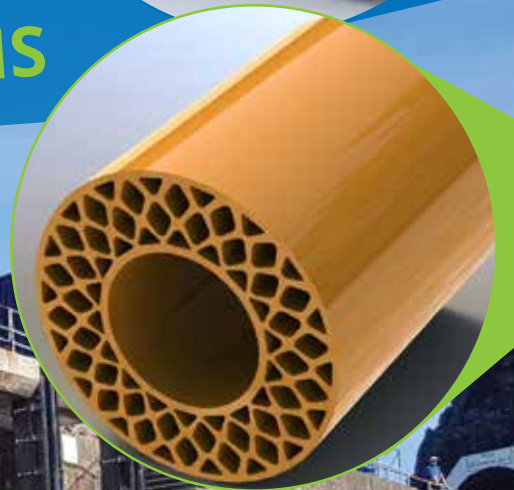
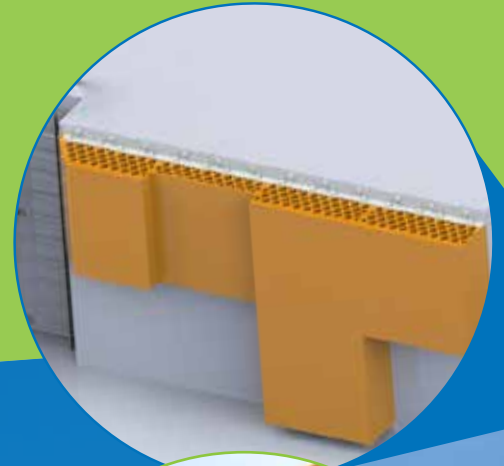




NEW GENERATION QUAYSIDE & PONTOON FENDERING

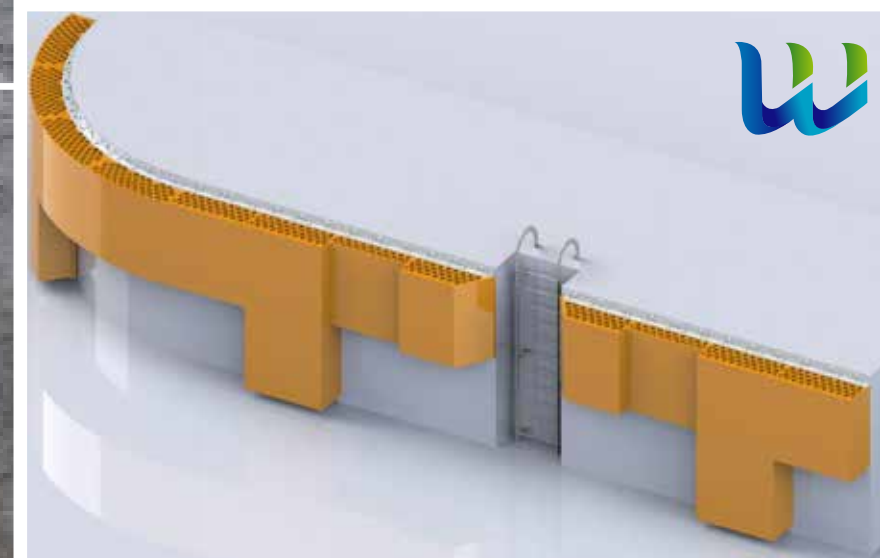
HIGH PERFORMANCE LOW
MAINTENANCE SOLUTIONS





AN INNOVATIVELY ENGINEERED ALTERNATIVE TO RUBBER FENDERING

- **MINIMUM 30% LIGHTER THAN RUBBER FENDERS OF EQUIVALENT SIZE**
- **MODULAR INNOVATIVELY ENGINEERED DESIGNS**
- **EXTREME DURABILITY AND WEAR RESISTANCE**
- **PROGRESSIVE COMPRESSION THROUGH MULTIPLE CAVITIES**
- **VARIABLE HARDNESS RANGE FOR TAILORED PERFORMANCE**
- **EASY, QUICK INSTALLATION AND REDUCED MAINTENANCE COSTS**



MODULAR BLOCK
FENDERIT SOLUTION
Canary Wharf, London

30 YEARS OF EXPERIENCE

Buoyant Works has developed the next generation of Quayside Fendering. Utilising our progressive compression technology and modular construction, we have achieved significant performance and environmental benefits.

We have replaced the traditional arch, element and cone fenders with "Fender Wall", a new modular approach to quayside protection.

REVOLUTIONISING THE TRADITIONAL QUAYSIDE FENDER



APPLICATION

FENDERIT provides a high performance, engineered approach to protecting mooring berths including harbour and marina pontoons, quayside jetties and wharfs, and inland waterways. **FENDERIT** absorbs the kinetic energy of vessels mooring against these berths extremely effectively, helping to prevent costly damage to both the vessel and berthing structure.

Berthing fenders have vessels of all shapes and sizes constantly pushed against them in variable environmental and operating conditions. The relentless heavy impact against these fenders causes most products to wear and degrade, compromising the protection of the berthing structure and requiring regular maintenance and replacement.



FENDERIT TECHNOLOGY

A modern approach to:

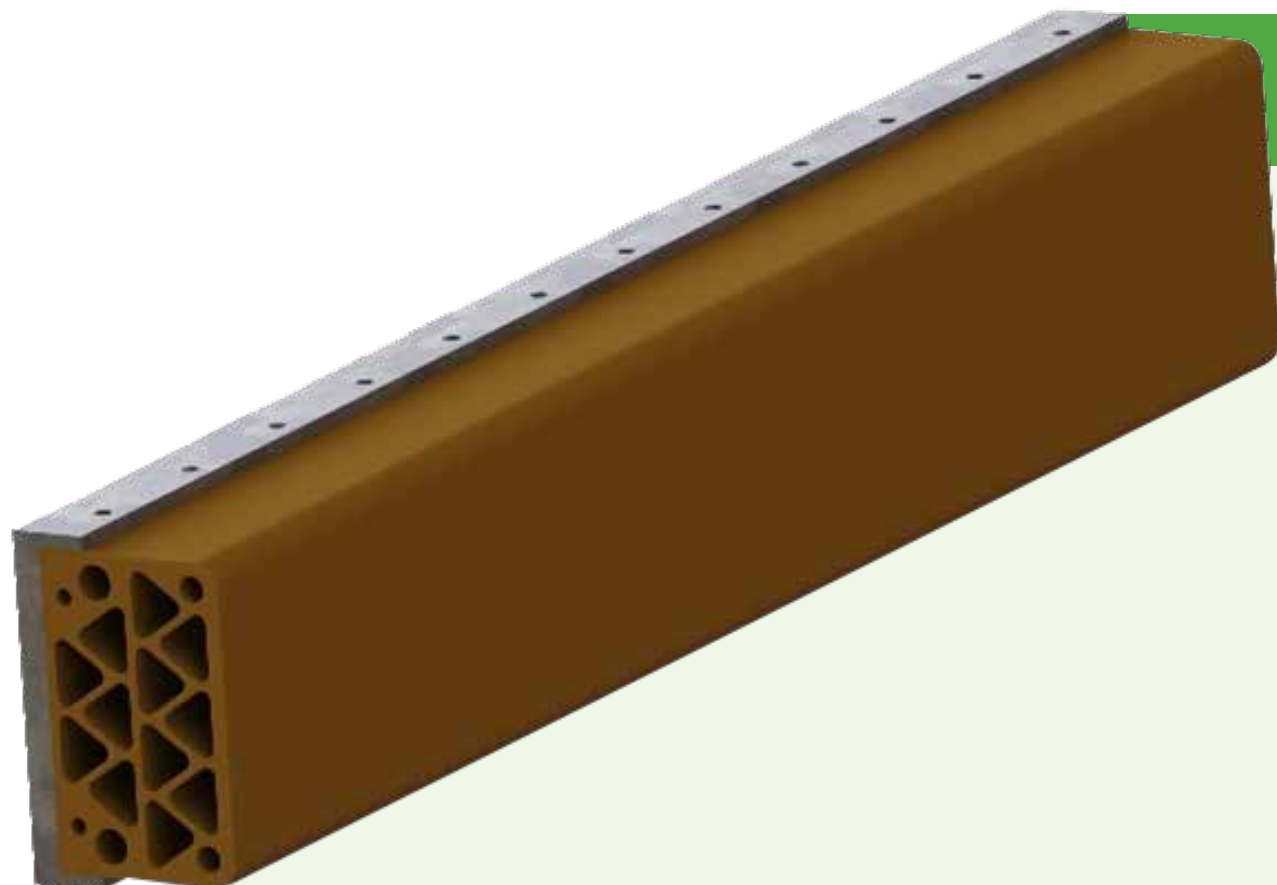
- DESIGN
- FUNCTION
- PERFORMANCE

FEATURES

- **LOW WEIGHT**, TYPICALLY UP TO 50% LESS THAN AN EQUIVALENT RUBBER CYLINDRICAL FENDER
- **HIGH IMPACT RESISTANCE** – EXCELLENT RECOVERY AFTER IMPACT
- **LOW REACTION FORCE**
- **SUPERIOR ABRASION RESISTANCE**, TENSILE STRENGTH, AND TEAR RESISTANCE
- **MODULAR CONFIGURATIONS AVAILABLE**
- **HIGH PERFORMANCE POLYURETHANE CONSTRUCTION**
- **SUPERIOR PHYSICAL PROPERTIES** COMPARED WITH RUBBER
- **LONG TERM CONSISTENT AND REPEATABLE PERFORMANCE**
- **INNOVATIVE INTERNAL STRUCTURE DESIGNS** TO GENERATE HIGH ENERGY-ABSORPTION

OTHER FEATURES INCLUDE

- Compressive strength of the profile can be varied to meet specific performance requirements
- 3 Different material hardnesses available dependant on specific project requirements
- Variety of wall thicknesses available to meet weight / performance requirements
- Designed for dynamic applications
- Excellent performance in hot and cold climates
- Non-marking material
- Available in a choice of different colours
- Unitised production - straight lengths are manufactured up to 2400mm and can be cut to size as required
- Sophisticated and consistent manufacturing process allows tight weight and performance tolerances to be achieved
- Corners and end features can be supplied
- Choice of fixing options including mechanical fixing, bolt fixing, strapping and hanging with through rope for tethering in place.
- Extensive range of profiles and sizes available.



BENEFITS

- **STANDARD & CUSTOM PROFILES** developed to suit your quayside structure and its operational needs
- **UNITISED PRODUCTION** enables fender lengths to be held in stock or available on short lead times when replacements are required rapidly
- **EASY, QUICK INSTALLATION OPTIONS & SUPPORT SERVICES** for minimal quayside operational interruption
- **A MODULAR APPROACH HELPS WITH INSTALLATION & MAINTENANCE REQUIREMENTS**
Small parts are cheaper and easier to replace if and when required
- **LONG, LOW MAINTENANCE SERVICE LIFE** significantly reduces quayside operation downtime
- **EXPERT REPAIR & MAINTENANCE SERVICES AVAILABLE**
- **ULTRA-LOW WASTE PRODUCTION METHOD**
- **CAN BE RECYCLED** for other applications

IN-HOUSE PERFORMANCE TESTING



To be sure the fenders we manufacture for you meet your performance requirements, we have a fender press test rig at our production facility in Cornwall and can perform fender profile performance testing (compression and durability) with independent data verification.

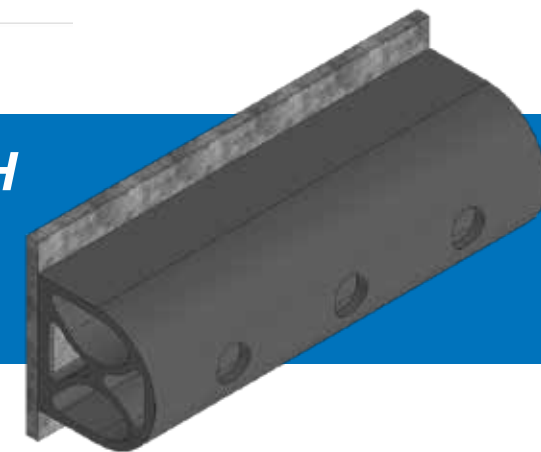
FIXING OPTIONS

1



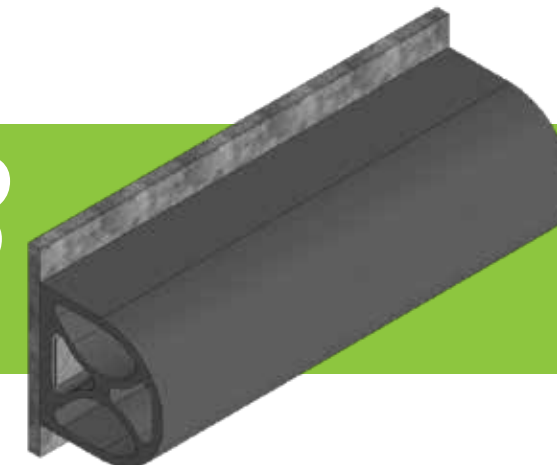
*TOP AND BOTTOM
MECHANICAL FIXING*

*HORIZONTAL THROUGH
BOLT FIXING
(FRONT FACE)*



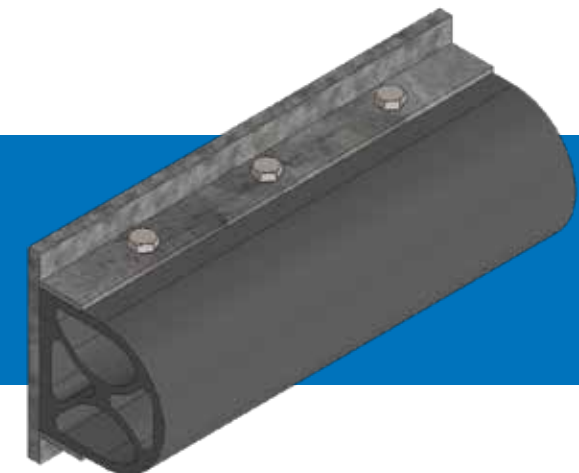
2

3



*HORIZONTAL
THROUGH BOLT FIXING
(BACK FACE)*

*VERTICAL THROUGH
BOLT FIXING*



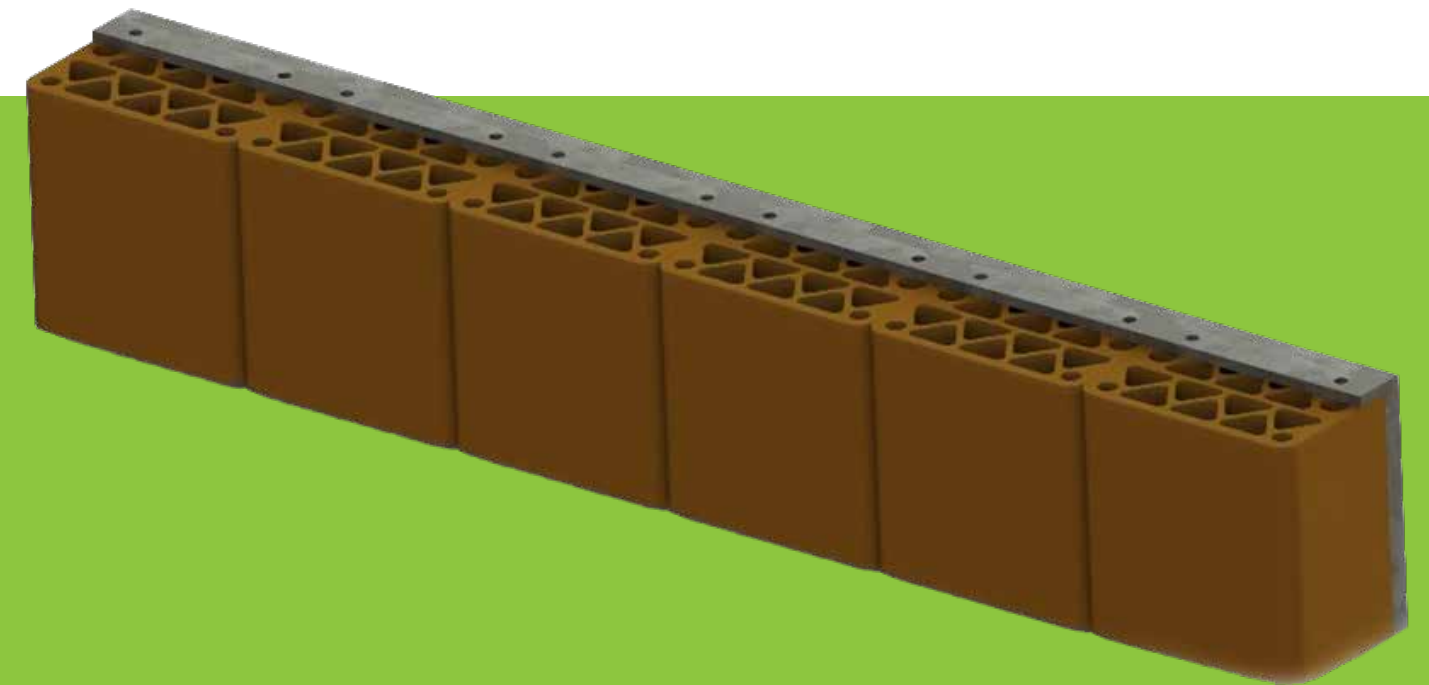
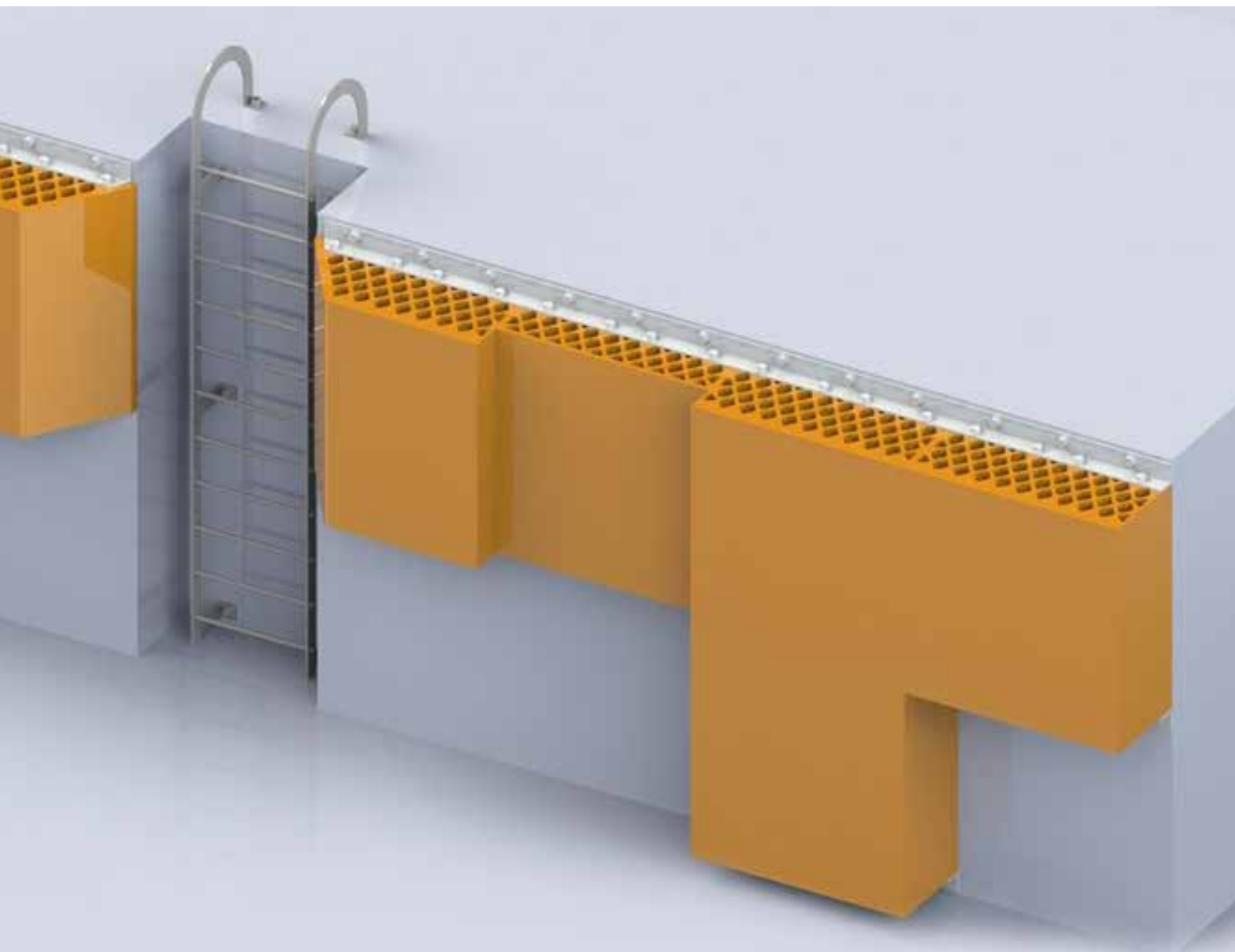
4

FENDERIT RANGE FOR QUAYSIDE APPLICATIONS

FENDER WALL

STANDARD AND CUSTOMISABLE BLOCK FENDER PROFILES

FENDER WALL is our new modular approach to quayside protection. An extensive range of standard and customisable Block Fender profiles have been designed as a new generation modular alternative to both cylindrical and cone/panel fixed fender systems.

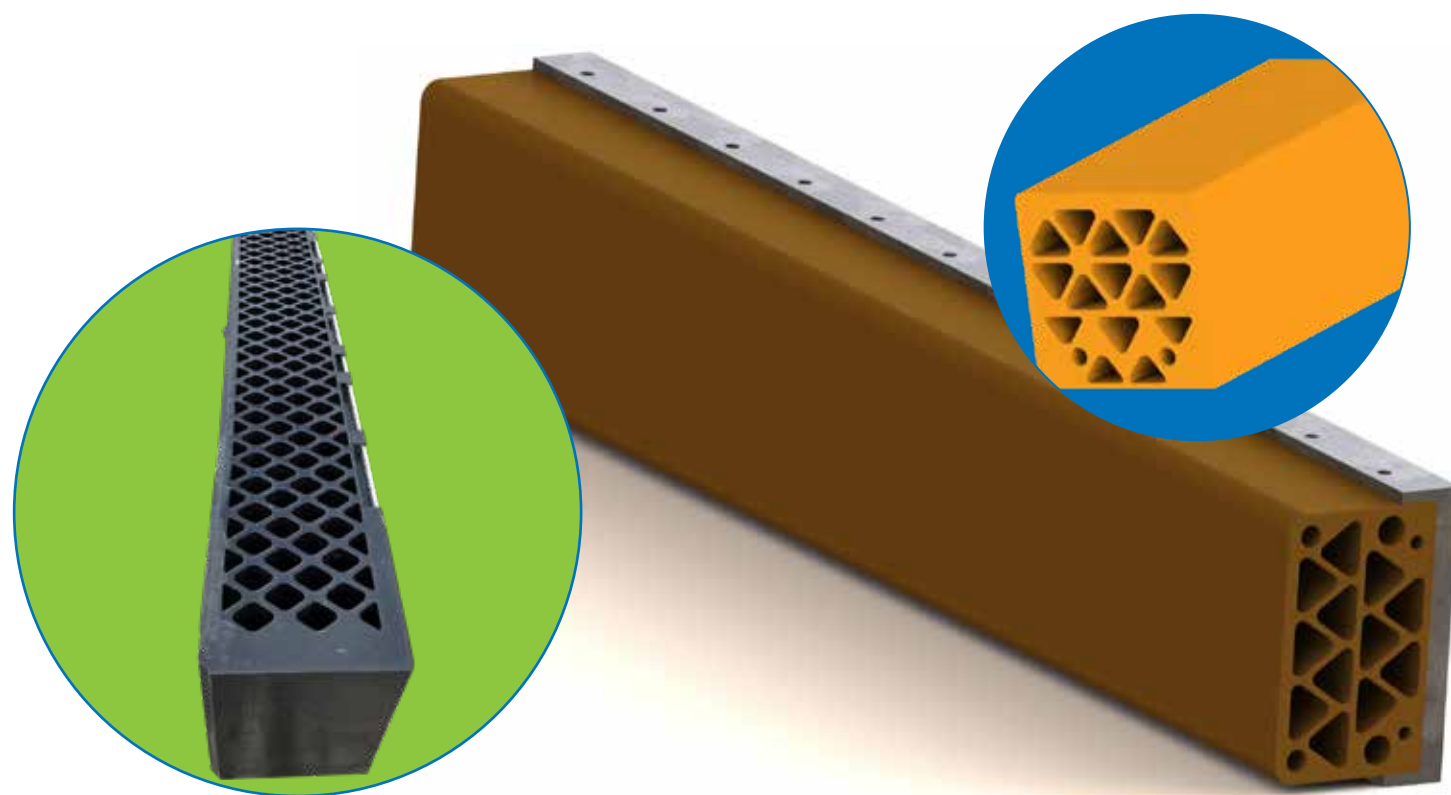


FENDER WALL FEATURES:

- **LOW REACTION FORCE**
- **MULTIPLE ENERGY ABSORBING CAVITIES**
- **CONSISTENT PERFORMANCE** ACROSS THE ENTIRE FENDER FRONT FACE
- **CAN BE MOULDED IN A VARIETY OF HEIGHT, LENGTH AND DEPTH CONFIGURATIONS** TO SUIT PROJECT REQUIREMENTS
- **MODULAR CONFIGURATION** TO ENABLE EASY REPLACEMENT IF REQUIRED
- **CAN BE SUPPLIED IN A VARIETY OF HARDNESSES** ENABLING THE FENDER STIFFNESS TO BE ADJUSTED
- **LADDER PROTECTION FEATURES AND CHAMFERED EDGES AVAILABLE**
- **CUSTOM CORNER AND TAPERED SECTIONS** CAN BE SUPPLIED TO SUIT ANY BLOCK FENDER PROFILES

BLOCK FENDERS

Product Reference	Width (mm)	Depth (mm)	Maximum Length (mm)	Weight per Linear Metre (kg)	Rubber Weight Comparison (kg)
BWB150-01	150	150	2350	16	23.6
BWB200-01	200	200	2350	27	43.8
BWB250-01	250	250	2350	44	67.2
BWB300-01	300	300	2350	59	95.6
BWB337-01	337	205	2350	37	n/a
BWB337-01	337	300	2350	57	n/a
BWB350-01	350	350	2350	82	126
BWB400-01	400	400	2350	59	158
BWB450-01	450	450	2350	160	247
BWB530-01	530	356	2350	112	n/a
BWB530-02	530	420	2350	145	n/a

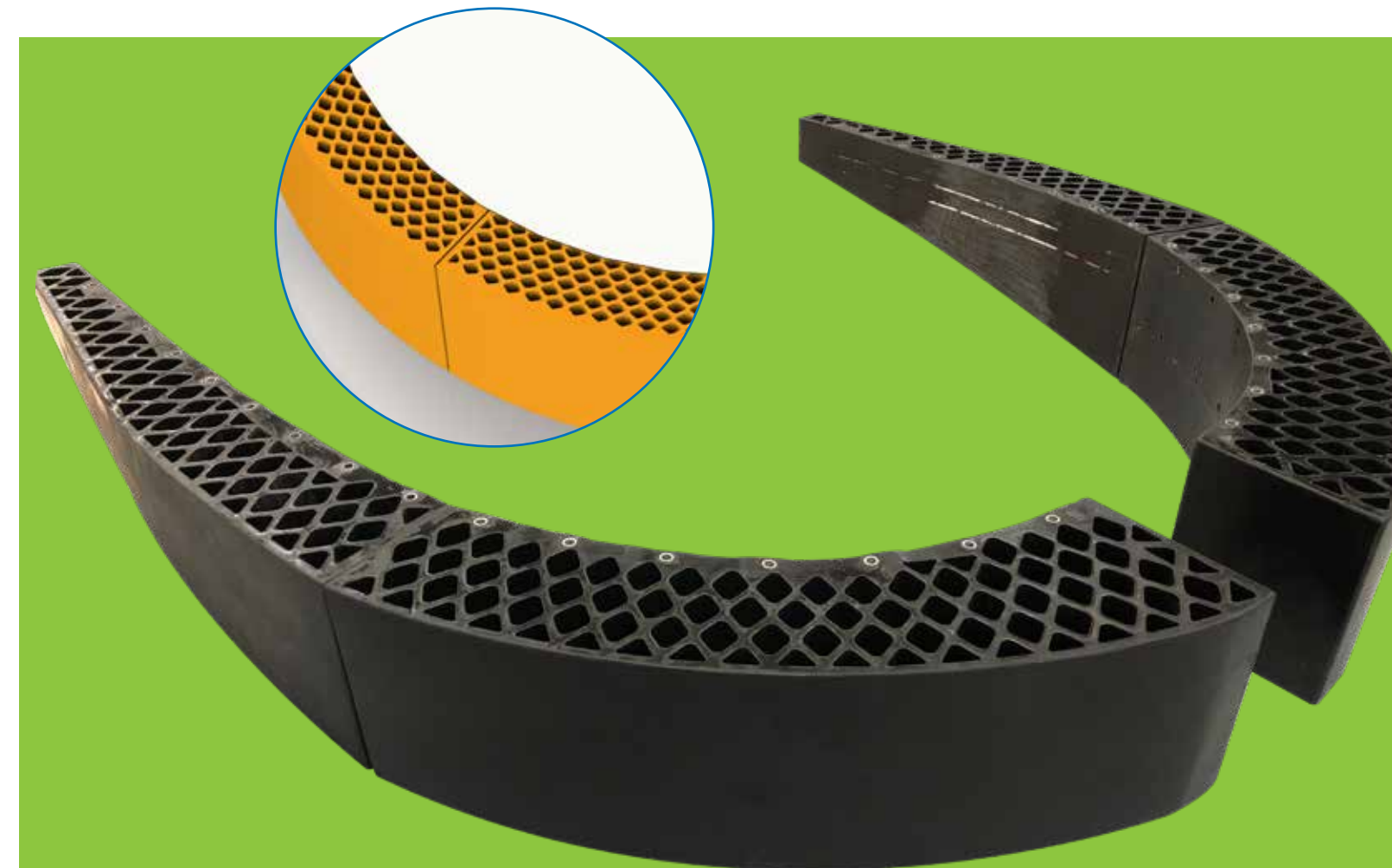


CONTOURED BLOCK FENDERS

Modular alternative to W or D-Fenders

Available as either Straight or Curved Lengths

Product Reference	Width (mm)	Depth (mm)	Maximum Length (mm)	Weight per Linear Metre (kg)
BWCB200-01	2000	200	1500	147
BWCB250-01	2000	250	1500	185
BWCB300-01	2000	300	1500	197
BWCB350-01	2000	350	1500	216
BWCB400-01	2000	400	1500	240
BWCB416-01	2000	416	1500	250
BWCB450-01	2000	450	1500	270
BWCB500-01	2000	500	1500	301



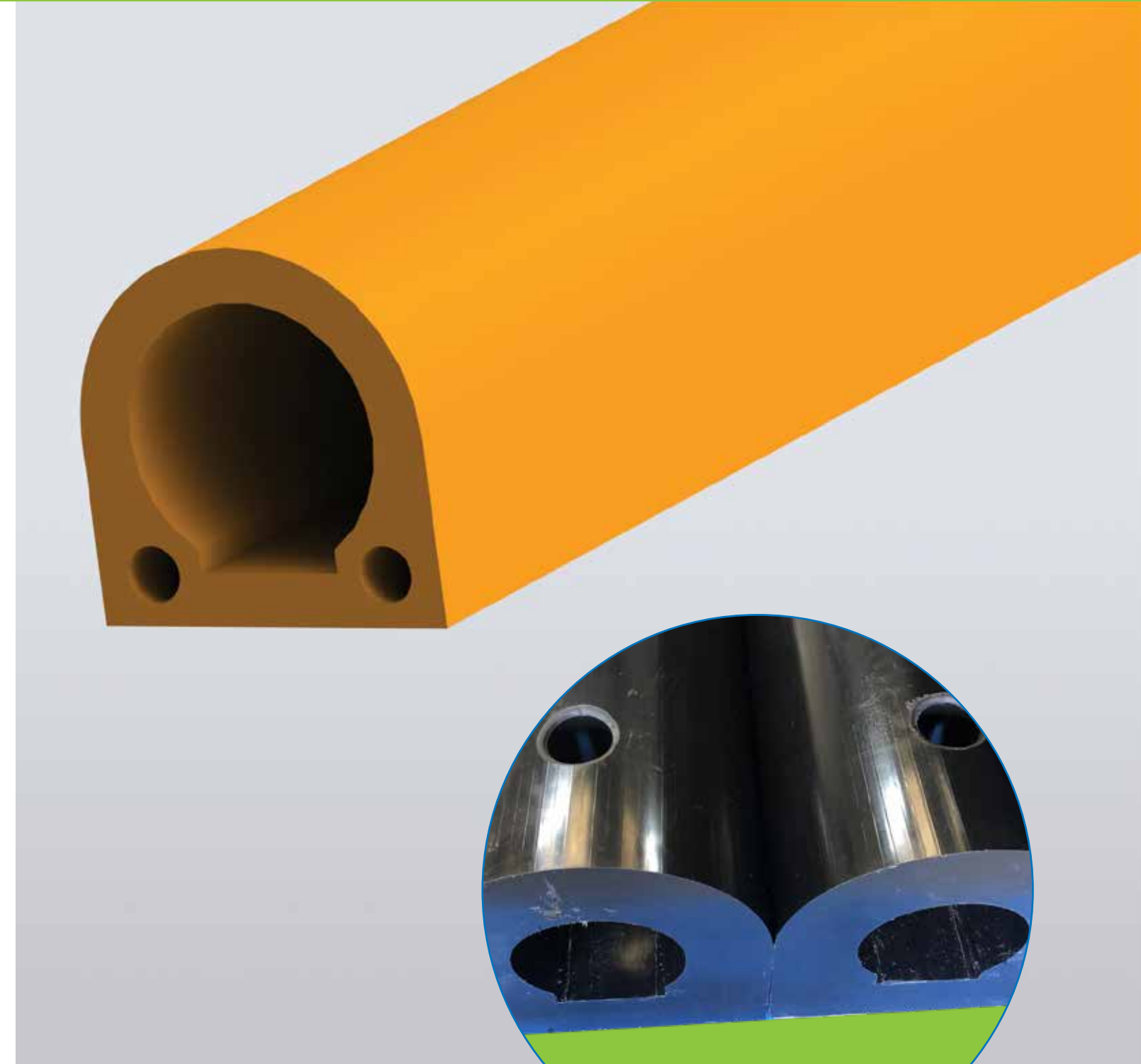


D-FENDERS - MULTI-CAVITY

Product Reference	Base Width (mm)	Height/Depth (mm)	Number of Cavities	Weight per Linear Metre (kg)	Fixing System			Rubber Weight Comparison (kg)
					Bonding	Vertical Bolting	Horizontal Bolting	
DMC100-100	100	100	3	5				8.5-10
DMC150-086	150	86	4	5				n/a
DMC150-113	150	113	3	7.5				n/a
DMC150-150	150	150	6	10.0				18.5-20.5
DMC150-151	150	150	6	12.0				18.5-20.5
DMC150-152	150	150	6	13.5				18.5-20.5
DMC160-157	160	157	7	10				n/a
DMC200-200	200	200	9	22				33-38.5
DMC250-250	250	250	10	36.5				51.5-59
DMC300-210	300	210	8	36				n/a
DMC300-300	300	300	15	49				74-83.5
DMC350-350	350	350	18	69				101-113
DMC400-400	400	400	26	87				132-137
DMC500-500	500	500	36	147				206-214
DH400400-61	400	400	3	83				132-137
DH500500-72	500	500	3	127				206-214
DH500500-97	500	500	3	153.0				206-214

D-FENDERS - HORIZONTAL BOLTING

Product Reference	Base Width (mm)	Height/Depth (mm)	Number of Cavities	Wall Thickness	Weight per Linear Metre (kg)	Fixing System			Rubber Weight Comparison (kg)
						Bonding	Vertical Bolting	Horizontal Bolting	
DH080080-08	80	80	1	8	2.75				n/a
DH100100-12	100	100	1	12	5				8.5-10
DH150150-15	150	150	1	15	9.6				18.5-20.5
DH150150-21	150	150	1	21	11.8				18.5-20.5
DH200200-22	200	200	3	22	16.8				33-38.5
DH200200-30	200	200	3	30	19.5				33-38.5
DH250250-24	250	250	3	24	23.5				51.5-59
DH250250-36	250	250	3	36	30.4				51.5-59
DH250290-40	250	290	3	40	36				n/a
DH300300-36	300	300	3	36	40				74-83.5
DH300300-42	300	300	3	42	43.2				74-83.5
DH350350-51	350	350	3	51	64				101-113
DH350350-76	350	350	3	76	79				101-113
DH400400-35	400	400	3	35	70				132-137
DH400400-61	400	400	3	61	83				132-137
DH500500-72	500	500	3	72	127				206-214
DH500500-97	500	500	3	97	153.0				206-214

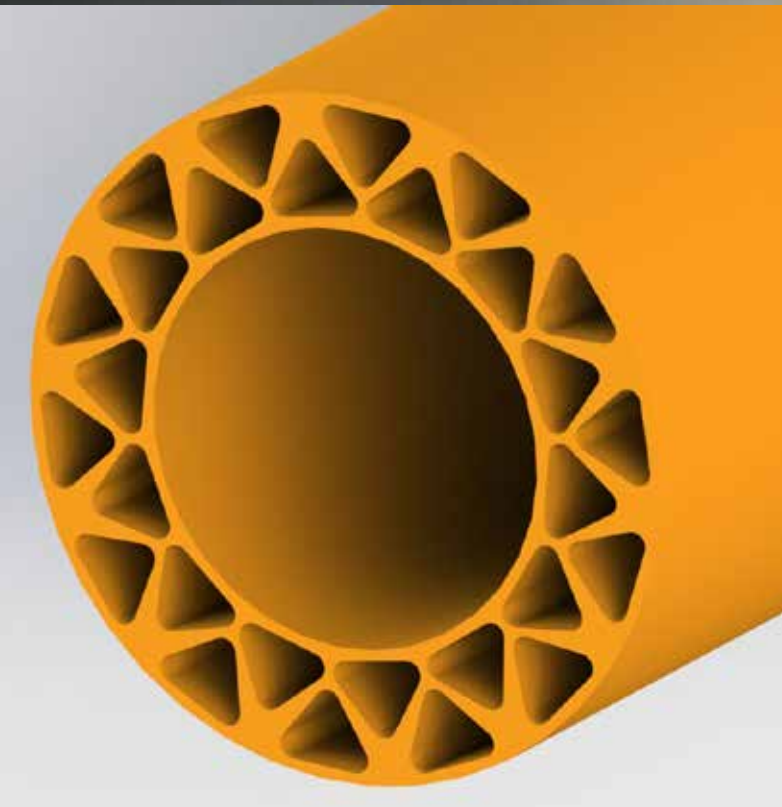
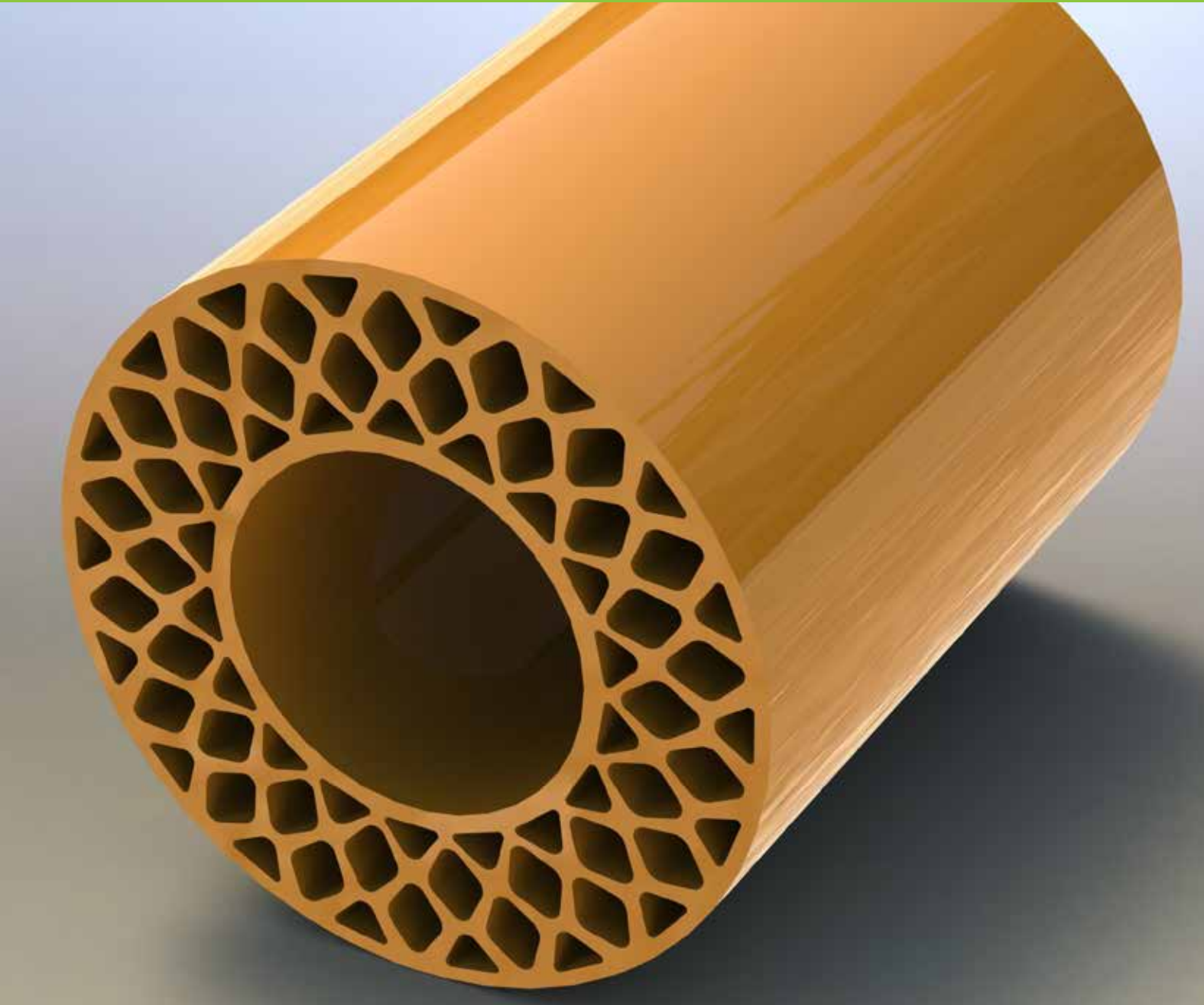


D-FENDERS - VERTICAL BOLTING

Product Reference	Base Width (mm)	Height/Depth (mm)	Number of Cavities	Wall Thickness	Weight per Linear Metre (kg)	Fixing System			Rubber Weight Comparison (kg)
						Bonding	Vertical Bolting	Horizontal Bolting	
DV080080-08	80	80	1	8	2.75				n/a
DV100100-12	100	100	1	12	5				8.5-10
DV150150-15	150	150	1	15	9.6				18.5-20.5
DV150150-21	150	150	1	21	11.8				18.5-20.5
DV200200-22	200	200	1	22	16.8				33-38.5
DV200200-30	200	200	1	30	19.5				33-38.5
DV250250-24	250	250	1	24	23.5				51.5-59
DV250250-36	250	250	1	36	30.4				51.5-59
DV250290-40	250	290	1	40	36				n/a
DV300300-36	300	300	3	36	40				74-83.5
DV300300-42	300	300	3	42	43.2				74-83.5
DV350350-51	350	350	3	51	64				101-113
DV350350-76	350	350	3	76	79				101-113
DV400400-35	400	400	3	35	70				132-137
DV400400-61	400	400	3	61	83				132-137
DV500500-72	500	500	3	72	127				206-214
DV500500-97	500	500	3	97	153.0				206-214



CYLINDRICAL FENDERS



Product Reference	Outer Diameter (mm)	Inner Diameter (mm)	Weight per Liner Metre (kg)	Rubber Weight Comparison (kg)
BWCF0100050	100	50	4.3	7.2
BWCF0125063	125	63	7.6	11
BWCF0150075	150	75	11	16.3
BWCF0200110	200	110	15	29
BWCF0250125	250	125	20	45.3
BWCF0280140	280	140	37	n/a
BWCF0300150	300	150	36	65.2
BWCF0400200	400	200	53	116
BWCF0500250	500	250	87	87
BWCF0600310	600	310	125	126
BWCF0800400	800	400	303	303
BWC10000570	1000	570	350	350

HANGING FENDER PROFILES

Product Reference	Outer Diameter (mm)	Width (mm)	Depth (mm)	Maximum Length (mm)	Inner Diameter (mm)	Weight (kg)	Max Rope Diameter
BWHF-001	n/a	181	160	1500	22	6.5	19
BWHF-002	182	n/a	n/a	1500	22	17	19
BWHF-003	358	n/a	n/a	1500	25	42	22
BWHF-004	n/a	405	1200	2000	n/a	Up to 500 kg	n/a

The **FENDERIT** complete profile range data sheet covering all types of fender applications is available upon request.

FENDERIT - MATERIAL PHYSICAL PROPERTY DATA COMPARED WITH TYPICAL RUBBER PROPERTIES

	Units	Test Method	FENDERIT High Performance Polymer						Typical Rubber
			Soft	Soft	Medium	Medium	Hard	Hard	
Material Density	kg/cu.m.		1080	1090	1090	1100	1120	1130	1200
Shore Hardness	Shore A Scale		70	75	80	85	90	95	65-78
Tensile Strength	mPa	BS903ptA2-ISO37	37	37	39	46	47	51	11.0-16.0
Elongation at Break	%age	BS903ptA2-ISO37	750	710	600	630	560	500	280-400
Tear Strength (Die C)	KN/m	ISO 34-1	74	83	103	100	104	113	35-60
Tear Strength (Trouser)	KN/m	ISO 34-1	37	38	38	39	41	40	
Compression Set	%age	BS903ptA6-ISO815	44	46	40	36	34	33	25-40
Resilience	%age	AST-MD2632-92	55	51	47	46	41	37	
Abrasion Loss **	cubic mm	DIN53516	37	40	40	47	58	59	150-250

**For Abrasion Loss, the lower the stated figure, the better the wear/abrasion resistance is.

ABOUT US

Buoyant Works is an innovative designer and manufacturer of high performance, fendering and offshore wind farm impact protection products.

Born out of 30 years of fender design experience, our **FENDERIT** range is a modern, engineered polyurethane alternative to rubber fendering. It utilises the most efficient processing technology to provide lightweight, durable fender solutions which maximise vessel / quayside protection, increase operational performance and help to lower your running and maintenance costs.

FENDERIT has a dynamic range of applications:

- **Harbour and Marine Pontoons**
 - **Quayside Jetties**
- **Wharfs and Inland Waterways**
 - **Tug Boats**
 - **Pilot Boats**
- **Military and Patrol Boats**
 - **Lifeboats**
 - **Fishery Vessels**
- **Crew Transfer Vessels**

Please get in touch to discuss how we can help you:

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