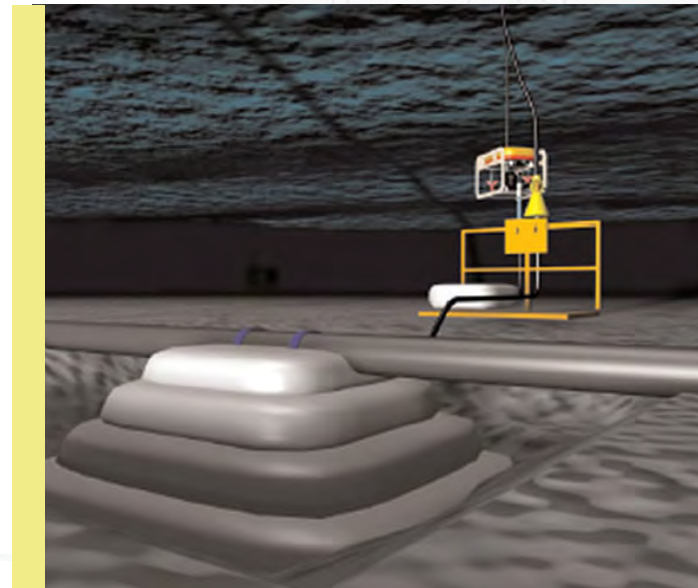


Fabric Formwork Grout Bags

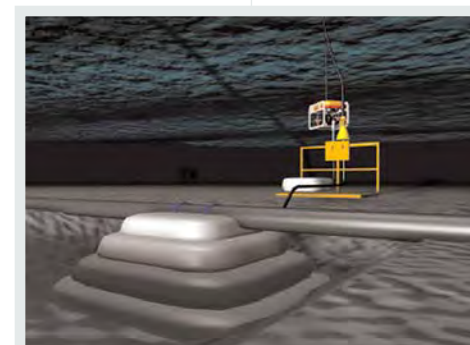
An Easy-to-Use Selection Guide

For Support, Protection and Stabilisation of
Pipelines, Cables, J-Tubes and Risers in the Offshore Energy Sectors



Contents

3	Fabric Formwork Overview
4	FO-24R ROV Deployed Pipeline Support
5	FO-36R ROV Deployed Pipeline Support
6	FO-48R ROV Deployed Pipeline Support
7	FO-14S Standard Base Pipeline Support
8	FO-24S Standard Base Pipeline Support
9	FO-36S Standard Base Pipeline Support
10	FO-48S Standard Base Pipeline Support
11	FO-60S Standard Base Pipeline Support
12	FO-14L Large Base Pipeline Support
13	FO-24L Large Base Pipeline Support
14	FO-36L Large Base Pipeline Support
15	FO-48L Large Base Pipeline Support
16	FO-60L Large Base Pipeline Support
17	FOJT Range: J-Tube Supports



Fabric Formwork Grout Bag Range

Your single-source solution for the design, manufacture and installation of all types of fabric formwork grout bags

FoundOcean has undertaken extensive testing on pipelines of various diameters and thicknesses of weightcoat, which has led to the development of a wide range of fully engineered fabric formworks.

FoundOcean's fabric formworks are a flexible shuttering, constructed from woven fabric which is filled with grout in-situ. The final shape of the support is defined by the shape of the grout bag. Fabric formworks are also used to raise a pipeline or structure by jacking to a desired elevation.

FoundOcean has experience of installing fabric formworks for supporting and stabilising pipelines, j-tubes and risers in both preventative and curative conditions, and depending upon the environment, can be deployed by divers or ROVs.

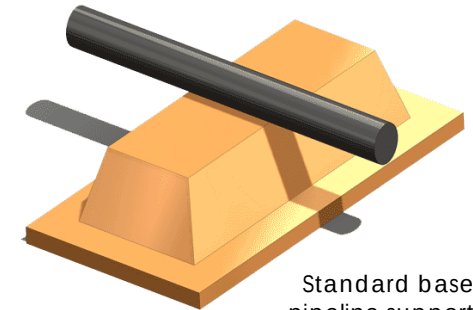
A pyramid shaped grout bag can be used to support the power cable(s) as it exits the J-Tube below the transition piece. Multiple grout bags can be used when more than one cable requires supporting.

In addition, FoundOcean provides specialised grout mixing and pumping equipment together with experienced personnel for the successful installation of the formworks.

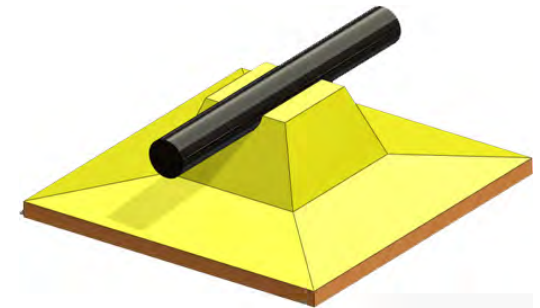
Because FoundOcean is involved in the offshore grouting work, all formwork designs take account of the practical aspects of installation. Detailed work procedures are provided to ensure that the diving or ROV contractor correctly applies the solutions.

Notes

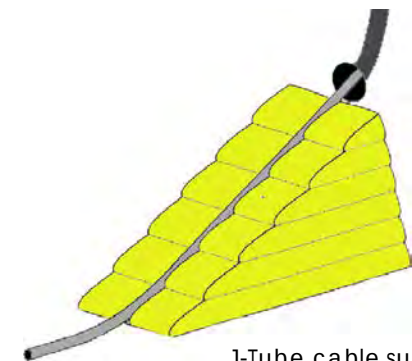
1. Diver deployed fabric formwork grout bags include fixing straps, injection sleeves and vent pipes.
2. Volume and cement quantities are a guide, subject to cement type and grout density.
3. The cement quantities indicated do not account for overage.
4. A reduction in the support height will result in less cement usage.
5. Grout bags can be installed using divers or ROVs.



Standard base pipeline support



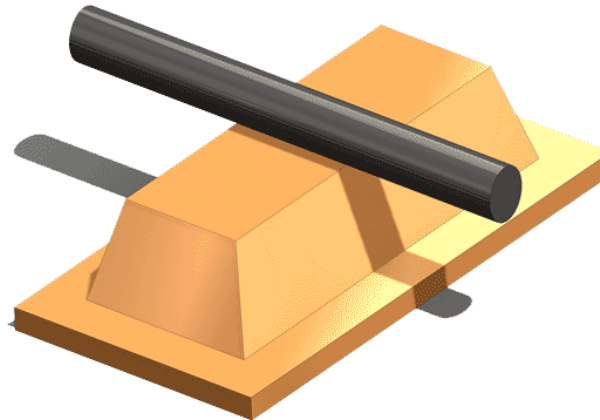
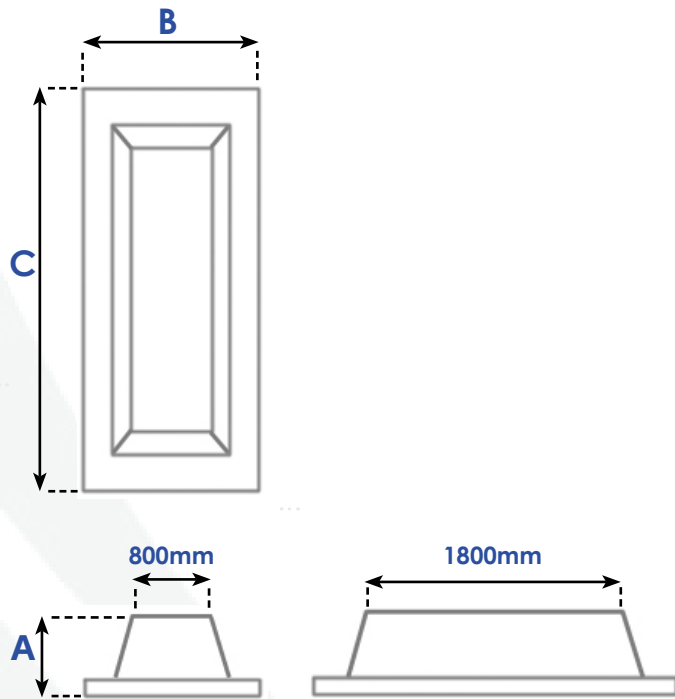
Standard and Large base pipeline support



J-Tube cable support

FO-24R ROV Deployed Pipeline Support

For use with Pipelines
up to 600mm (24 inch) diameter



Soil Bearing Capacity

Sandy	2.44 Tonnes/m ²
Soft	1.46 Tonnes/m ²
Very soft	0.97 Tonnes/m ²

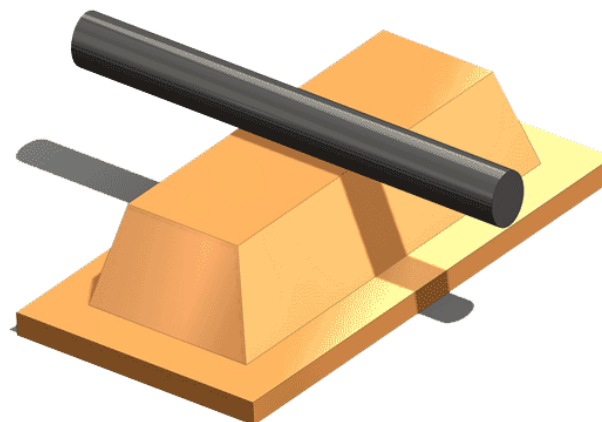
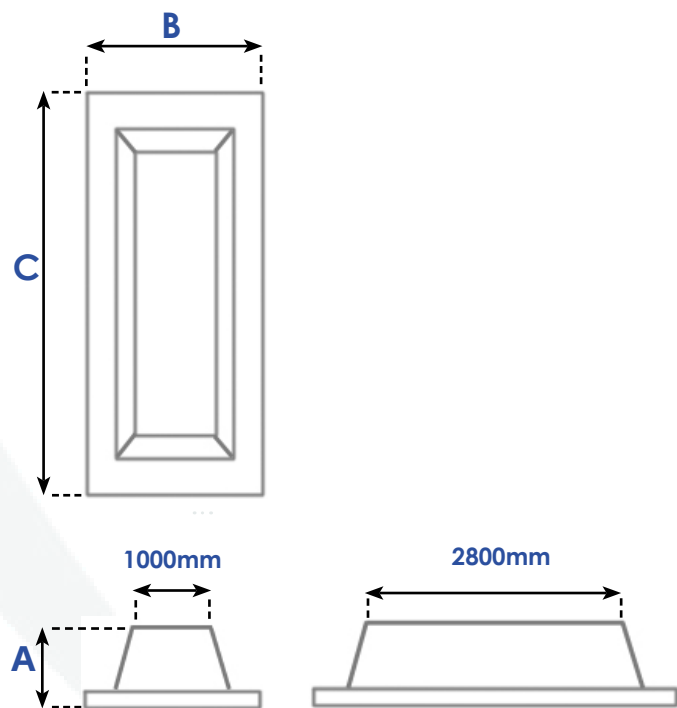
Order Code	Support Height (mm) A	Mattress Base Width (m) B	Mattress Base Length (m) C	Pay Load (Tonne)			Grout Volume (m ³)	Cement (Tonne)	Submersed Weight (Tonne)	No of Fill Stages
				Sandy	Soft	Very Soft				
FO-24R-300	100-300	-	-	4.30	2.45	1.47	0.51	0.70	0.47	1
FO-24R-600	300-600	-	-	3.90	1.98	1.00	1.02	1.38	0.94	1-2
FO-24R-750	600-700	1.95	2.95	12.04	6.40	3.60	2.16	2.92	1.97	2
FO-24R-1000	750-1000	2.13	3.13	13.40	6.90	3.66	3.09	4.20	2.84	2
FO-24R-1250	1000-1250	2.31	3.31	14.75	7.30	3.58	4.22	5.72	3.86	3
FO-24R-1500	1250-1500	2.48	3.48	16.07	7.61	3.37	5.55	7.53	5.08	3
FO-24R-1750	1500-1750	2.66	3.66	17.34	7.80	3.03	7.10	9.60	6.50	4
FO-24R-2000	1750-2000	2.84	3.84	18.55	7.87	2.54	8.89	12.06	8.13	4
FO-24R-2500	2000-2500	3.20	4.20	20.74	7.59	1.00	13.25	17.97	12.12	5

Notes

1. ROV deployed bags include injection sleeves, chain packets, and vent pipes.
2. Volume and cement quantities are a guide for each size of bag, subject to cement type and grout density.
3. The cement quantities indicated do not account for overage.
4. A reduction in the support height will result in less cement usage.
5. Installation is by ROV.

FO-36R ROV Deployed Pipeline Support

For use with Pipelines
up to 900mm (36 inch) diameter



Soil Bearing Capacity

Sandy	2.44 Tonnes/m ²
Soft	1.46 Tonnes/m ²
Very soft	0.97 Tonnes/m ²

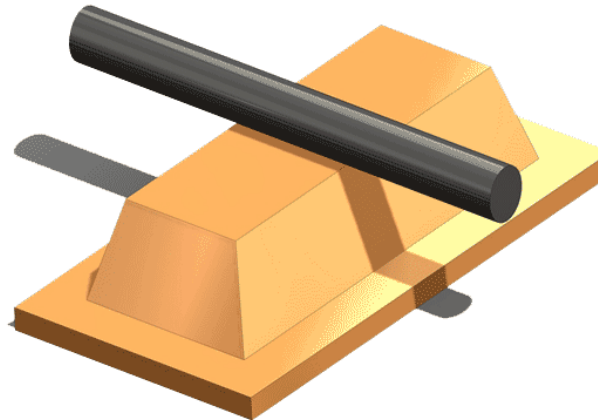
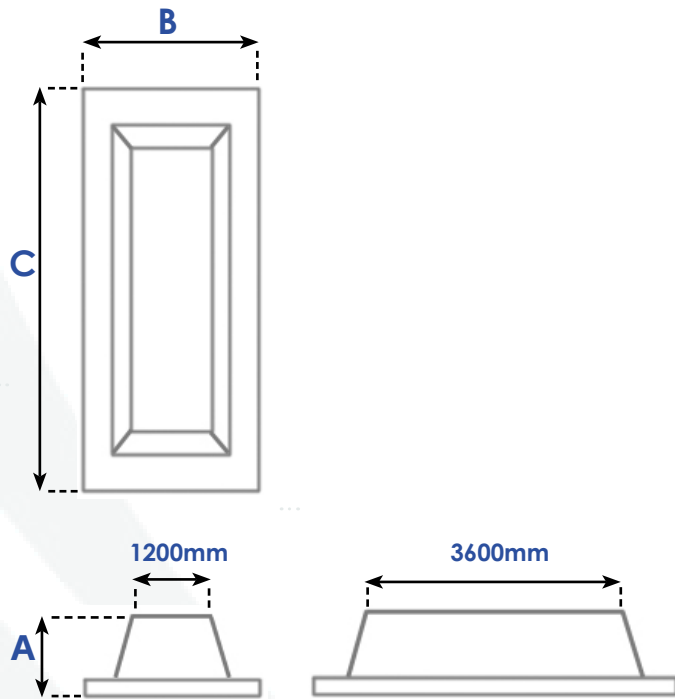
Notes

1. ROV deployed bags include injection sleeves, chain packets, and vent pipes.
2. Volume and cement quantities are a guide for each size of bag, subject to cement type and grout density.
3. The cement quantities indicated do not account for overage.
4. A reduction in the support height will result in less cement usage.

Order Code	Support Height (mm) A	Mattress Base Width (m) B	Mattress Base Length (m) C	Pay Load (Tonne)			Grout Volume (m ³)	Cement (Tonne)	Submersed Weight (Tonne)	No of Fill Stages
				Sandy	Soft	Very Soft				
FO-36R-300	100-300	-	-	7.88	4.38	2.60	0.95	1.29	0.87	1
FO-36R-600	300-600	-	-	8.90	4.50	2.38	2.16	2.93	1.98	1-2
FO-36R-750	600-700	2.15	3.95	17.40	9.13	4.99	3.58	4.80	3.28	2
FO-36R-1000	750-1000	2.33	4.13	18.79	9.41	4.72	5.07	6.88	4.64	2
FO-36R-1250	1000-1250	2.51	4.31	20.11	9.57	4.30	6.80	9.23	6.22	3
FO-36R-1500	1250-1500	2.68	4.48	21.35	9.59	3.71	8.79	11.92	8.04	3
FO-36R-1750	1500-1750	2.86	4.66	22.50	9.45	2.92	11.06	14.99	10.12	4
FO-36R-2000	1750-2000	3.04	4.84	23.53	9.13	1.93	13.61	18.46	12.45	4
FO-36R-2500	2000-2500	4.30	5.20	25.21	7.93	-	19.60	26.66	17.99	5

FO-48R ROV Deployed Pipeline Support

For use with Pipelines
up to 1200mm (48 inch) diameter



Soil Bearing Capacity

Sandy	2.44 Tonnes/m ²
Soft	1.46 Tonnes/m ²
Very soft	0.97 Tonnes/m ²

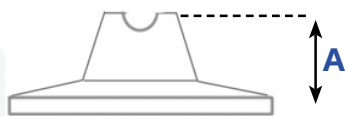
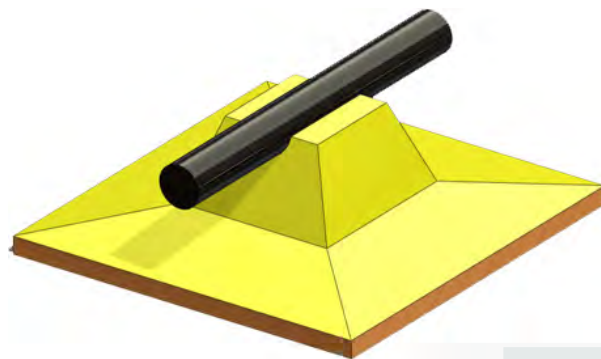
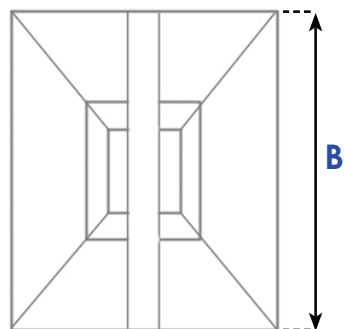
Order Code	Support Height (mm) A	Mattress Base Width (m) B	Mattress Base Length (m) C	Pay Load (Tonne)			Grout Volume (m ³)	Cement (Tonne)	Submersed Weight (Tonne)	No of Fill Stages
				Sandy	Soft	Very Soft				
FO-48R-300	100-300	-	-	11.67	6.47	3.87	1.44	1.95	1.32	1
FO-48R-600	300-600	-	-	12.69	6.44	3.32	3.20	4.34	2.92	1-2
FO-48R-750	600-700	2.35	4.75	22.54	11.60	6.22	5.08	6.89	4.65	2
FO-48R-1000	750-1000	2.53	4.93	23.85	11.70	5.62	7.13	9.67	6.52	2
FO-48R-1250	1000-1250	2.71	5.11	25.05	11.50	4.82	9.46	12.84	8.66	3
FO-48R-1500	1250-1500	2.88	5.28	26.13	11.20	3.80	12.11	16.42	11.08	3
FO-48R-1750	1500-1750	3.06	5.46	27.08	10.70	2.55	15.07	20.43	13.79	4
FO-48R-2000	1750-2000	3.20	5.64	27.87	10.00	1.06	18.37	24.91	16.80	4
FO-48R-2500	2000-2500	3.60	6.00	28.94	7.83	-	26.04	35.31	23.83	5

Notes

- ROV deployed bags include injection sleeves, chain packets, and vent pipes.
- Volume and cement quantities are a guide for each size of bag, subject to cement type and grout density.
- The cement quantities indicated do not account for overage.
- A reduction in the support height will result in less cement usage.
- Installation is by ROV.

FO-14S Standard Base Pipeline Support

For use with Pipelines
up to 350mm (14 inch) diameter



Soil Bearing Capacity

Sandy	2.44 Tonnes/m ²
Soft	1.46 Tonnes/m ²
Very soft	0.97 Tonnes/m ²

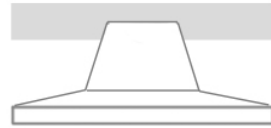
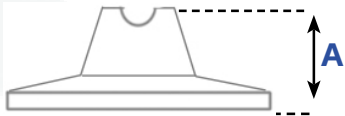
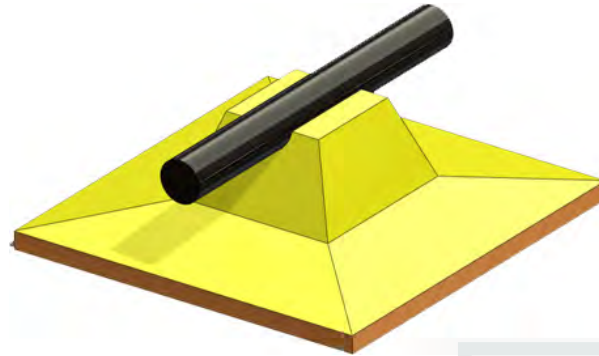
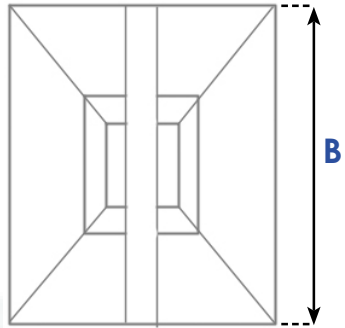
Notes

1. Diver deployed bags include fixing straps, injection sleeves and vent pipes.
2. Volume and cement quantities are a guide for each size of bag, subject to cement type and grout density.
3. The cement quantities indicated do not account for overage.
4. A reduction in the support height will result in less cement usage.
5. Grout bags can be installed by divers.

Order Code	Support Height (mm) A	Mattress Base Length (mm) B	Mattress Base Area (m ²)	Pay Load (Tonne)			Grout Volume (m ³)	Cement (Tonne)	Submersed Weight (Tonne)	Pyramid Pipe Bearing Length (mm) B	No of Fill Stages
				Sandy	Soft	Very Soft					
FO-14S-300	100-300	1540.80	2.37	5.08	2.77	1.61	0.74	1.00	0.69	650	1
FO-14S-600	300-600	1770.20	3.13	6.56	3.50	1.98	1.16	1.57	1.06	650	1-2
FO-14S-750	600-750	1884.88	3.55	7.33	3.87	2.14	1.43	1.94	1.31	650	2
FO-14S-1000	750-1000	2076.00	4.30	8.68	4.48	2.38	1.97	2.67	1.81	650	2
FO-14S-1250	1000-1250	2267.10	5.13	10.07	5.06	2.56	2.66	3.61	2.44	650	3
FO-14S-1500	1250-1500	2458.23	6.04	11.49	5.61	2.66	3.61	4.76	3.21	650	3
FO-14S-1750	1500-1750	2649.35	7.01	12.93	6.09	2.60	4.54	6.16	4.15	650	4
FO-14S-2000	1750-2000	2840.40	8.06	14.36	6.50	2.57	5.77	7.83	5.28	650	4
FO-14S-2250	2000-2250	3031.58	9.19	15.77	6.82	2.34	7.22	9.79	6.60	650	5
FO-14S-2500	2250-2500	3222.70	10.38	17.14	7.02	1.96	8.90	12.07	8.14	650	5
FO-14S-2750	2500-2750	3413.80	11.65	18.45	7.10	1.42	10.84	14.70	9.92	650	6
FO-14S-3000	2750-3000	3604.90	12.99	19.68	7.03	0.70	13.06	17.71	11.95	650	6

FO-24S Standard Base Pipeline Support

For use with Pipelines between
350-600mm (14-24 inch) diameter



Soil Bearing Capacity

Sandy	2.44 Tonnes/m ²
Soft	1.46 Tonnes/m ²
Very soft	0.97 Tonnes/m ²

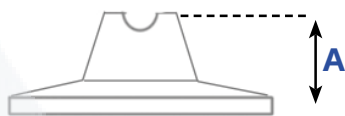
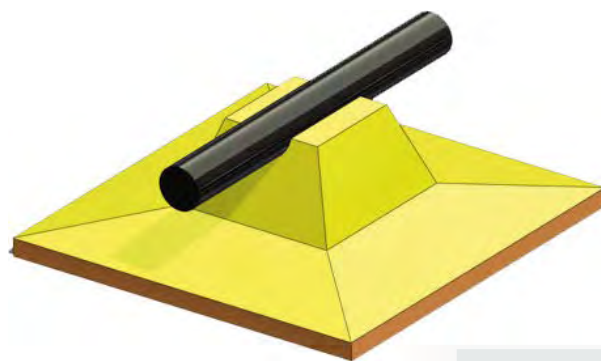
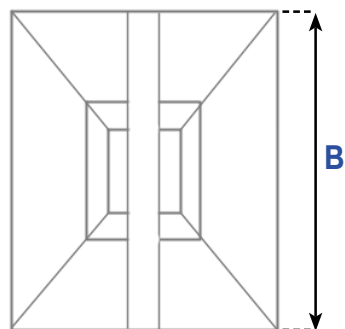
Notes

1. Diver deployed bags include fixing straps, injection sleeves and vent pipes.
2. Volume and cement quantities are a guide for each size of bag, subject to cement type and grout density.
3. The cement quantities indicated do not account for overage.
4. A reduction in the support height will result in less cement usage.
5. Grout bags can be installed using divers.

Order Code	Support Height (mm) A	Mattress Base Length (mm) B	Mattress Base Area (m ²)	Pay Load (Tonne)			Grout Volume (m ³)	Cement (Tonne)	Submersed Weight (Tonne)	Pyramid Top Pipe Bearing Length (mm) B	No of Fill Stages
				Sandy	Soft	Very Soft					
FO-24S-300	100-300	1790.92	3.20	6.94	3.82	2.26	1.08	1.46	0.85	900	1
FO-24S-600	300-600	2020.20	4.08	8.44	4.47	2.48	1.63	2.21	1.49	900	1-2
FO-24S-750	600-750	2134.90	4.55	9.26	4.82	2.60	2.00	2.71	1.83	900	2
FO-24S-1000	750-1000	2316.05	5.41	10.67	5.40	2.76	2.73	3.70	2.50	900	2
FO-24S-1250	1000-1250	2517.16	6.33	12.10	5.92	2.84	3.63	4.92	3.32	900	3
FO-24S-1500	1250-1500	2708.00	7.33	13.50	6.39	2.81	4.72	6.40	4.32	900	3
FO-24S-1750	1500-1750	2899.40	8.40	14.96	6.77	2.67	6.02	8.17	5.50	900	4
FO-24S-2000	1750-2000	3090.50	9.55	16.35	7.05	2.40	7.53	10.21	6.89	900	4
FO-24S-2250	2000-2250	3281.60	10.76	17.71	7.22	1.97	9.30	12.61	8.50	900	5
FO-24S-2500	2250-2500	3472.70	12.06	19.00	7.25	1.38	11.32	15.35	10.36	900	5
FO-24S-2750	2500-2750	3663.80	13.42	20.21	7.13	0.60	13.63	18.49	12.47	900	6
FO-24S-3000	2750-3000	3604.90	14.86	31.32	6.85	-	16.24	22.03	14.86	900	6

FO-36S Standard Base Pipeline Support

For use with Pipelines between
600-900mm (24-36 inch) diameter



Soil Bearing Capacity

Sandy	2.44 Tonnes/m ²
Soft	1.46 Tonnes/m ²
Very soft	0.97 Tonnes/m ²

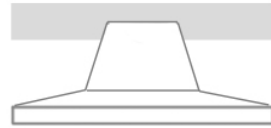
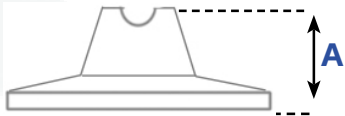
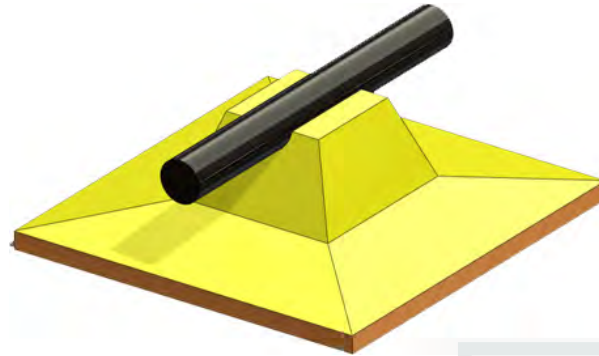
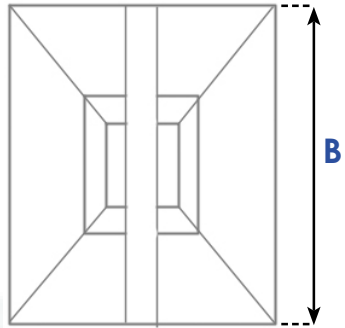
Notes

1. Diver deployed bags include fixing straps, injection sleeves and vent pipes.
2. Volume and cement quantities are a guide for each size of bag, subject to cement type and grout density.
3. The cement quantities indicated do not account for overage.
4. A reduction in the support height will result in less cement usage.
5. Grout bags can be installed by divers.

Order Code	Support Height (mm) A	Mattress Base Length (mm) B	Mattress Base Area (m ²)	Pay Load (Tonne)			Grout Volume (m ³)	Cement (Tonne)	Submersed Weight (Tonne)	Pyramid Top Pipe Bearing Length (mm) B	No of Fill Stages
				Sandy	Soft	Very Soft					
FO-36S-300	100-300	2240.90	5.02	10.77	5.88	3.43	1.58	2.14	1.45	1350	1
FO-36S-600	300-600	2470.20	6.10	12.33	6.39	3.42	2.75	3.73	2.51	1350	1-2
FO-36S-750	600-750	2584.90	6.68	13.20	6.69	3.43	3.35	4.54	3.06	1350	2
FO-36S-1000	750-1000	2776.05	7.70	14.63	7.12	3.37	4.50	6.10	4.13	1350	2
FO-36S-1250	1000-1250	2967.10	8.80	16.05	7.47	3.19	5.88	7.98	5.38	1350	3
FO-36S-1500	1250-1500	3158.20	9.97	17.43	7.72	2.86	7.48	10.15	6.85	1350	3
FO-36S-1750	1500-1750	3349.40	11.21	18.76	7.84	2.37	9.34	12.67	8.54	1350	4
FO-36S-2000	1750-2000	3540.50	12.53	20.03	7.82	1.71	11.46	15.54	10.48	1350	4
FO-36S-2250	2000-2250	3731.60	13.92	21.21	7.64	0.87	13.87	18.81	12.69	1350	5
FO-36S-2500	2250-2500	3922.70	15.38	22.28	7.29	-	16.59	22.50	15.18	1350	5
FO-36S-2750	2500-2750	4113.80	16.92	23.23	6.75	-	19.64	26.64	17.97	1350	6
FO-36S-3000	2750-3000	4304.99	18.53	24.00	5.99	-	23.03	31.24	21.07	1350	6

FO-48S Standard Base Pipeline Support

For use with Pipelines between
900-1200mm (36-48 inch) diameter



Soil Bearing Capacity

Sandy	2.44 Tonnes/m ²
Soft	1.46 Tonnes/m ²
Very soft	0.97 Tonnes/m ²

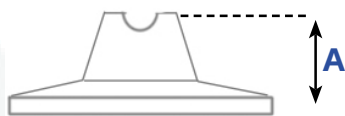
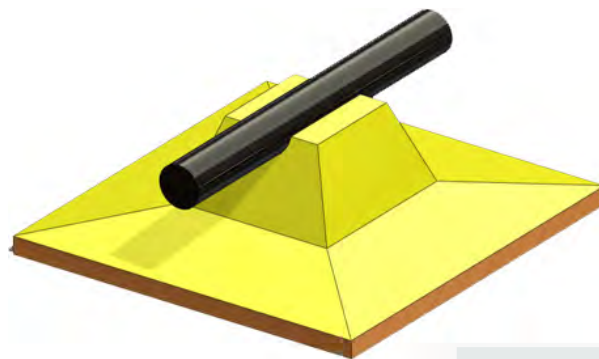
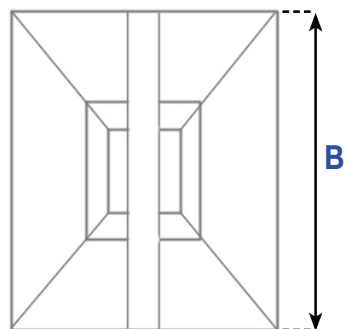
Notes

1. Diver deployed bags include fixing straps, injection sleeves and vent pipes.
2. Volume and cement quantities are a guide for each size of bag, subject to cement type and grout density.
3. The cement quantities indicated do not account for overage.
4. A reduction in the support height will result in less cement usage.
5. Grout bags can be installed using divers.

Order Code	Support Height (mm) A	Mattress Base Length (mm) B	Mattress Base Area (m ²)	Pay Load (Tonne)			Grout Volume (m ³)	Cement (Tonne)	Submersed Weight (Tonne)	Pyramid Top Pipe Bearing Length (mm) B	No of Fill Stages
				Sandy	Soft	Very Soft					
FO-48S-300	100-300	2690.90	7.24	15.53	8.48	4.93	2.28	3.09	2.09	1800	1
FO-48S-600	300-600	2920.20	8.50	16.85	8.55	4.39	4.26	5.78	3.90	1800	1-2
FO-48S-750	600-750	3034.90	9.21	17.70	8.70	4.24	5.16	7.00	4.72	1800	2
FO-48S-1000	750-1000	3226.05	10.40	19.06	8.93	3.86	6.85	9.29	6.27	1800	2
FO-48S-1250	1000-1250	3417.10	11.67	20.37	9.00	3.30	8.80	11.94	8.05	1800	3
FO-48S-1500	1250-1500	3608.28	13.01	21.61	8.90	2.50	11.00	14.92	10.08	1800	3
FO-48S-1750	1500-1750	3799.40	14.43	22.75	8.69	1.66	13.54	18.37	12.39	1800	4
FO-48S-2000	1750-2000	3990.50	15.92	23.78	8.27	0.52	16.37	22.20	14.98	1800	4
FO-48S-2250	2000-2250	4181.60	17.48	24.69	7.66	-	19.54	26.50	17.88	1800	5
FO-48S-2500	2250-2500	4372.75	19.12	25.45	6.80	-	23.06	31.28	21.10	1800	5
FO-48S-2750	2500-2750	4563.87	20.82	26.05	5.70	-	26.95	36.55	24.66	1800	6
FO-48S-3000	2750-3000	4754.99	22.60	26.46	4.44	-	31.24	42.37	28.58	1800	6

FO-60S Standard Base Pipeline Support

For use with Pipelines between
1200-1500mm (48-60 inch) diameter



Soil Bearing Capacity

Sandy	2.44 Tonnes/m ²
Soft	1.46 Tonnes/m ²
Very soft	0.97 Tonnes/m ²

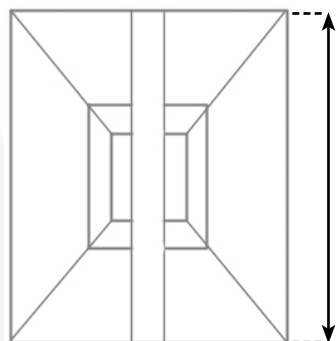
Notes

1. Diver deployed bags include fixing straps, injection sleeves and vent pipes.
2. Volume and cement quantities are a guide for each size of bag, subject to cement type and grout density.
3. The cement quantities indicated do not account for overage.
4. A reduction in the support height will result in less cement usage.
5. Grout bags can be installed by divers.

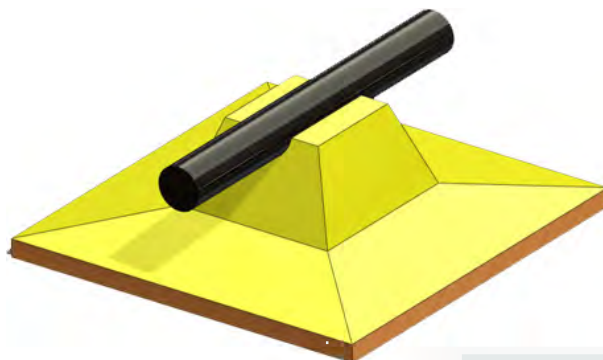
Order Code	Support Height (mm) A	Mattress Base Length (mm) B	Mattress Base Area (m ²)	Pay Load (Tonne)			Grout Volume (m ³)	Cement (Tonne)	Submersed Weight (Tonne)	Pyramid Top Pipe Bearing Length (mm) B	No of Fill Stages
				Sandy	Soft	Very Soft					
FO-60S-300	100-300	3190.90	10.18	21.84	11.93	6.97	3.20	4.34	2.94	2250	1
FO-60S-600	300-600	3420.20	11.70	22.69	11.30	5.60	6.32	8.57	5.78	2250	1-2
FO-60S-750	600-750	3534.93	12.49	23.48	11.31	5.22	7.58	10.28	6.94	2250	2
FO-60S-1000	750-1000	3726.05	13.88	24.72	11.20	4.44	9.91	13.44	9.07	2250	2
FO-60S-1250	1000-1250	3917.16	15.34	25.87	10.93	3.45	12.55	17.02	11.48	2250	3
FO-60S-1500	1250-1500	4108.20	16.87	26.90	10.46	2.24	15.50	21.02	14.19	2250	3
FO-60S-1750	1500-1750	4299.40	18.48	27.80	9.79	0.79	18.80	25.50	17.20	2250	4
FO-60S-2000	1750-2000	4490.50	20.16	28.54	8.90	-	22.46	30.46	20.55	2250	4
FO-60S-2250	2000-2250	4681.60	21.19	29.12	7.77	-	26.49	35.93	24.24	2250	5
FO-60S-2500	2250-2500	4872.70	23.74	29.51	6.38	-	30.93	41.95	28.30	2250	5
FO-60S-2750	2500-2750	5063.80	25.64	29.60	4.70	-	35.78	48.53	32.74	2250	6
FO-60S-3000	2750-3000	5254.99	27.61	29.66	2.76	-	41.07	55.71	37.57	2250	6

FO-14L Large Base Pipeline Support

For use with Pipelines
up to 350mm (14 inch) diameter

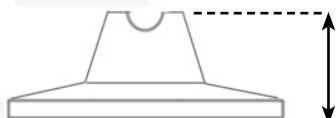


B

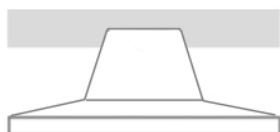


Soil Bearing Capacity

Sandy	2.44 Tonnes/m ²
Soft	1.46 Tonnes/ m ²
Mud	0.60 Tonnes/ m ²



A



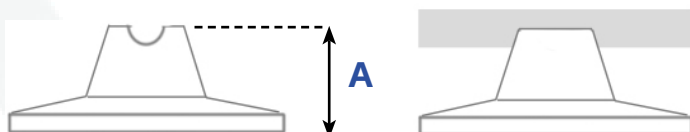
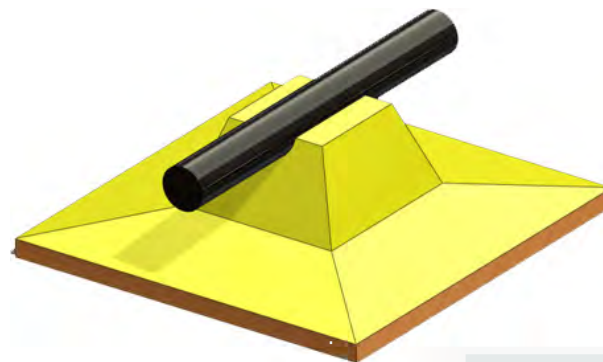
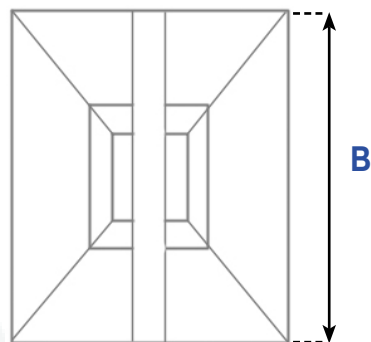
Notes

1. Diver deployed bags include fixing straps, injection sleeves and vent pipes.
2. Volume and cement quantities are a guide for each size of bag, subject to cement type and grout density.
3. The cement quantities indicated do not account for overage.
4. A reduction in the support height will result in less cement usage.
5. Grout bags can be installed using divers.

Order Code	Support Height (mm) A	Top Length (m)	Mattress Base Length (mm) B	Mattress Base Area (m ²)	Pay Load (Tonne)			Grout Volume (m ³)	Cement (Tonne)	Submersed Weight (Tonne)	Pyramid Top Pipe Bearing Length (mm) F	No of Fill Stages
					Soft	Very Soft	Mud					
FO-14L-300	100-300	0.52	2660.80	7.08	8.90	5.38	2.81	1.56	2.10	1.43	650	1
FO-14L-600	300-600	0.52	2890.20	8.35	10.31	6.24	3.12	2.06	2.79	1.88	650	1-2
FO-14L-750	600-700	0.52	3004.80	9.02	11.01	6.62	3.24	2.37	3.21	2.17	650	2
FO-14L-1000	750-1000	0.52	3196.00	10.21	12.18	7.20	3.39	2.99	4.06	2.73	650	2
FO-14L-1250	1000-1250	0.52	3387.11	11.47	13.32	7.74	3.45	3.70	5.02	3.43	650	3
FO-14L-1500	1250-1500	0.52	3577.70	12.80	14.43	8.19	3.40	4.67	6.33	4.27	650	3
FO-14L-1750	1500-1750	0.52	3769.35	14.20	15.47	8.55	3.24	5.77	7.83	5.20	650	4
FO-14L-2000	1750-2000	0.52	3960.47	15.68	16.44	8.80	2.94	7.07	9.59	6.46	650	4
FO-14L-2250	2000-2250	0.52	4151.50	17.23	17.32	8.92	2.48	8.58	11.64	7.85	650	5
FO-14L-2500	2250-2500	0.52	4342.70	18.85	18.08	8.90	1.84	10.34	14.02	9.46	650	5
FO-14L-2750	2500-2750	0.52	4533.80	20.55	18.72	8.71	1.02	12.35	16.75	11.30	650	6
FO-14L-3000	2750-3000	0.52	4724.90	22.32	19.21	8.34	-	14.64	19.86	13.40	650	6

FO-24L Large Base Pipeline Support

For use with Pipelines between
350-600mm (14-24 inch) diameter



Soil Bearing Capacity

Sandy	2.44 Tonnes/m ²
Soft	1.46 Tonnes/ m ²
Mud	0.60 Tonnes/ m ²

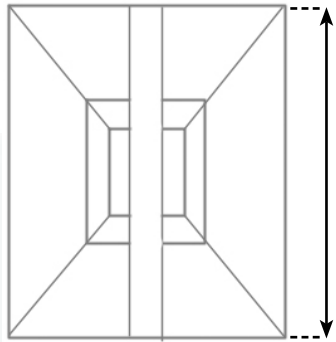
Notes

1. Diver deployed bags include fixing straps, injection sleeves and vent pipes.
2. Volume and cement quantities are a guide for each size of bag, subject to cement type and grout density.
3. The cement quantities indicated do not account for overage.
4. A reduction in the support height will result in less cement usage.
5. Grout bags can be installed using divers.

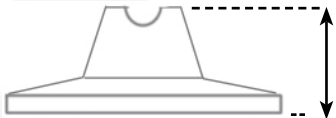
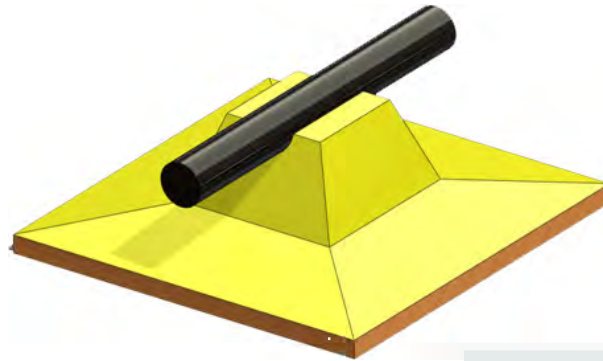
Order Code	Support Height (mm) A	Top Length (mm)	Mattress Base Length (mm) B	Mattress Base Area (m ²)	Pay Load (Tonne)			Grout Volume (m ³)	Cement (Tonne)	Submersed Weight (Tonne)	Pyramid Top Pipe Bearing Length (mm) F	No of Fill Stages
					Soft	Very Soft	Mud					
FO-24L-300	100-300	681.00	2910.90	8.47	10.60	6.50	3.54	1.86	2.52	1.70	900	1
FO-24L-600	300-600	681.00	3140.20	9.86	12.00	7.20	2.60	2.60	3.53	2.39	900	1-2
FO-24L-750	600-700	681.00	3254.90	10.59	12.70	7.54	3.00	3.00	4.07	2.77	900	2
FO-24L-1000	750-1000	681.00	3446.05	11.87	13.83	8.05	3.84	3.84	5.21	3.51	900	2
FO-24L-1250	1000-1250	681.00	3637.10	13.22	14.92	8.47	4.81	4.81	6.52	4.40	900	3
FO-24L-1500	1250-1500	681.00	3838.00	14.65	15.94	8.80	5.97	5.97	8.10	5.46	900	3
FO-24L-1750	1500-1750	681.00	4019.40	16.15	16.88	9.02	7.33	7.33	9.94	6.70	900	4
FO-24L-2000	1750-2000	681.00	4210.50	17.72	17.73	9.09	8.90	8.90	12.07	8.16	900	4
FO-24L-2250	2000-2250	681.00	4401.60	19.37	18.45	9.02	10.76	10.76	14.59	9.84	900	5
FO-24L-2500	2250-2500	681.00	4592.70	19.10	19.05	8.78	12.85	12.85	17.43	11.76	900	5
FO-24L-2750	2500-2750	681.00	4783.80	22.88	19.49	8.34	15.20	15.20	20.62	13.94	900	6
FO-24L-3000	2750-3000	681.00	4974.90	24.75	19.76	7.71	17.91	17.91	24.29	16.39	900	6

FO-36L Large Base Pipeline Support

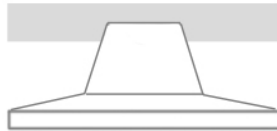
For use with Pipelines between
600-900mm (24-36 inch) diameter



B



A



Soil Bearing Capacity

Sandy	2.44 Tonnes/m ²
Soft	1.46 Tonnes/ m ²
Mud	0.60 Tonnes/ m ²

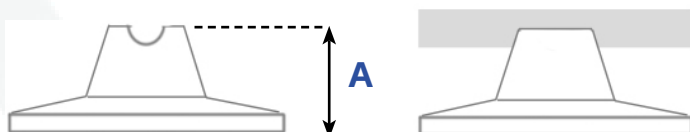
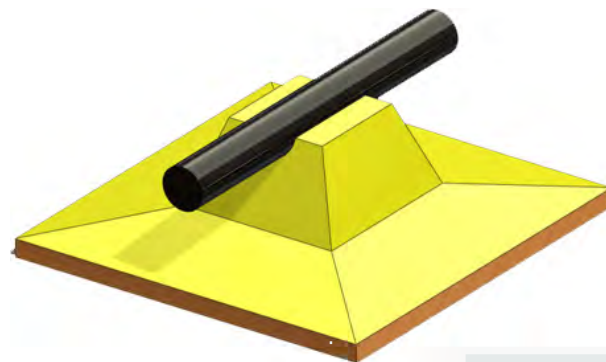
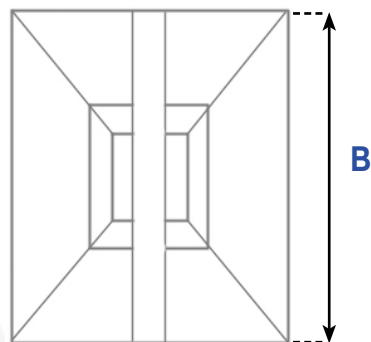
Notes

1. Diver deployed bags include fixing straps, injection sleeves and vent pipes.
2. Volume and cement quantities are a guide for each size of bag, subject to cement type and grout density.
3. The cement quantities indicated do not account for overage.
4. A reduction in the support height will result in less cement usage.
5. Grout bags can be installed using divers.

Order Code	Support Height (mm) A	Top Length (mm)	Mattress Base Length (mm) B	Mattress Base Area (m ²)	Pay Load (Tonne)			Grout Volume (m ³)	Cement (Tonne)	Submersed Weight (Tonne)	Pyramid Top Pipe Bearing Length (mm) F	No of Fill Stages
					Soft	Very Soft	Mud					
FO-36L-300	100-300	-	3760.90	14.14	17.66	10.78	5.49	3.27	4.44	2.99	1350	1
FO-36L-600	300-600	1022.00	3990.20	15.92	19.09	11.34	5.36	4.55	6.17	4.16	1350	1-2
FO-36L-750	600-700	1022.00	4104.90	16.85	19.84	11.64	5.33	5.20	7.05	4.77	1350	2
FO-36L-1000	750-1000	1022.00	4296.06	18.45	21.03	12.04	5.14	6.40	8.68	5.92	1350	2
FO-36L-1250	1000-1250	1022.00	4487.10	20.13	22.13	12.33	4.80	7.95	10.78	7.28	1350	3
FO-36L-1500	1250-1500	1022.00	4678.28	21.88	23.13	12.47	4.28	9.66	13.10	8.84	1350	3
FO-36L- 1750	1500-1750	1022.00	4869.40	23.71	24.00	12.45	3.50	11.62	15.76	10.63	1350	4
FO-36L-2000	1750-2000	1022.00	5060.50	25.60	24.73	12.26	2.69	13.85	18.79	12.67	1350	4
FO-36L-2250	2000-2250	1022.00	5251.60	27.57	25.31	11.88	1.56	16.36	22.19	14.97	1350	5
FO-36L-2500	2250-2500	1022.00	5442.70	29.62	25.71	11.29	-	19.19	26.03	17.56	1350	5
FO-36L-2750	2500-2750	1022.00	5633.80	31.74	25.92	10.46	-	22.34	30.30	20.44	1350	6
FO-36L-3000	2750-3000	1022.00	5824.99	33.93	25.92	9.39	-	25.84	35.05	23.64	1350	6

FO-48L Large Base Pipeline Support

For use with Pipelines between
900-1200mm (36-48 inch) diameter



Soil Bearing Capacity

Sandy	2.44 Tonnes/m ²
Soft	1.46 Tonnes/ m ²
Mud	0.60 Tonnes/ m ²

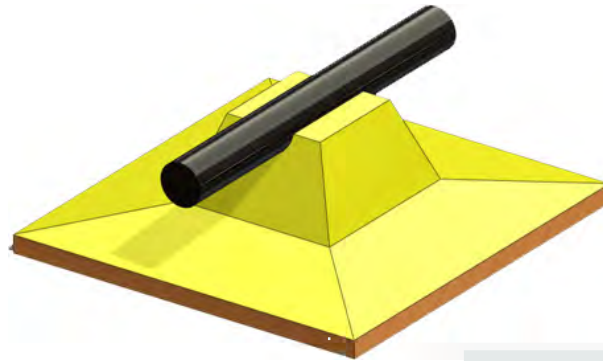
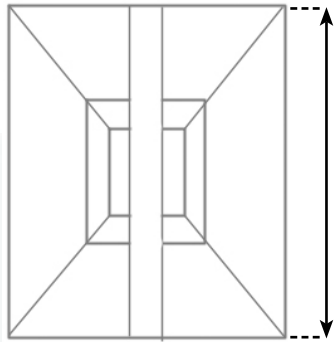
Notes

1. Diver deployed bags include fixing straps, injection sleeves and vent pipes.
2. Volume and cement quantities are a guide for each size of bag, subject to cement type and grout density.
3. The cement quantities indicated do not account for overage.
4. A reduction in the support height will result in less cement usage.
5. Grout bags can be installed using divers.

Order Code	Support Height (mm) A	Top Length (mm)	Mattress Base Length (mm) B	Mattress Base Area (m ²)	Pay Load (Tonne)			Grout Volume (m ³)	Cement (Tonne)	Submersed Weight (Tonne)	Pyramid Top Pipe Bearing Length (mm) F	No of Fill Stages
					Soft	Very Soft	Mud					
FO-48L-300	100-300	-	4210.90	17.73	22.01	13.39	6.76	4.21	5.71	3.87	1800	1
FO-48L-600	300-600	1360.00	4440.26	19.71	23.02	13.42	6.05	6.31	8.56	5.77	1800	1-2
FO-48L-750	600-700	1360.00	4554.93	20.74	23.65	13.55	5.79	7.27	9.86	6.65	1800	2
FO-48L-1000	750-1000	1360.00	4746.05	22.52	24.60	13.63	5.21	9.07	12.30	8.30	1800	2
FO-48L-1250	1000-1250	1360.00	4937.16	24.37	25.43	13.56	4.44	11.12	15.08	10.17	1800	3
FO-48L-1500	1250-1500	1360.00	5128.20	26.56	26.00	13.30	3.47	13.45	18.24	12.30	1800	3
FO-48L-1750	1500-1750	1360.00	5319.40	28.29	26.63	12.85	2.26	16.07	21.80	14.70	1800	4
FO-48L-2000	1750-2000	1360.00	5510.52	30.36	26.96	12.17	0.82	19.01	25.78	17.39	1800	4
FO-48L-2250	2000-2250	1360.00	5701.60	32.50	27.10	11.26	-	22.28	30.22	20.39	1800	5
FO-48L-2500	2250-2500	1360.00	5892.70	34.72	27.02	10.11	-	25.91	35.14	23.71	1800	5
FO-48L-2750	2500-2750	1360.00	6083.80	37.01	26.70	8.68	-	29.91	40.57	27.37	1800	6
FO-48L-3000	2750-3000	1360.00	6274.90	39.37	26.14	6.96	-	34.30	46.52	31.38	1800	6

FO-60L Large Base Pipeline Support

For use with Pipelines between
1200-1500mm (48-60 inch) diameter



Soil Bearing Capacity

Sandy	2.44 Tonnes/m ²
Soft	1.46 Tonnes/ m ²
Mud	0.60 Tonnes/ m ²

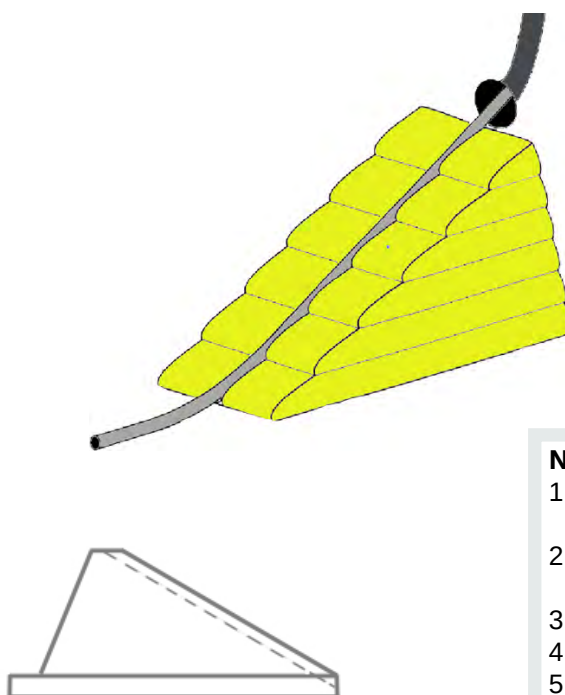
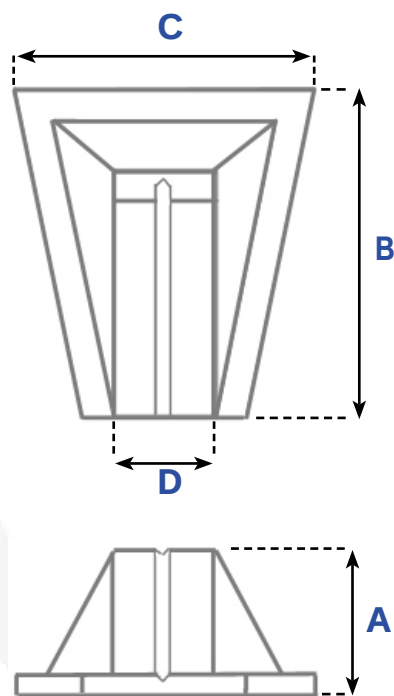
Notes

1. Diver deployed bags include fixing straps, injection sleeves and vent pipes.
2. Volume and cement quantities are a guide for each size of bag, subject to cement type and grout density.
3. The cement quantities indicated do not account for overage.
4. A reduction in the support height will result in less cement usage.
5. Grout bags can be installed using divers.

Order Code	Support Height (mm) A	Top Length (m)	Mattress Base Length (mm) B	Mattress Base Area (m ²)	Pay Load (Tonne)			Grout Volume (m ³)	Cement (Tonne)	Submerged Weight (Tonne)	Pyramid Top Pipe Bearing Length (mm) F	No of Fill Stages
					Soft	Very Soft	Mud					
FO-60L-300	100-300	-	4660.90	21.72	26.94	16.36	8.20	5.24	7.11	4.79	2250	1
FO-60L-600	300-600	1.70	4890.20	23.91	27.14	15.49	6.55	8.51	11.53	7.79	2250	1-2
FO-60L-750	600-700	1.70	5004.90	25.04	27.59	15.39	6.02	9.84	13.35	9.00	2250	2
FO-60L-1000	750-1000	1.70	5196.00	26.99	28.21	15.06	4.97	12.27	16.64	11.22	2250	2
FO-60L-1250	1000-1250	1.70	5387.00	29.02	28.67	14.53	3.68	15.00	20.35	13.73	2250	3
FO-60L-1500	1250-1500	1.70	5587.20	31.11	29.93	13.78	2.14	18.06	24.50	16.52	2250	3
FO-60L-1750	1500-1750	1.70	5769.40	33.28	28.99	12.78	0.33	21.45	29.09	19.63	2250	4
FO-60L-2000	1750-2000	1.70	5960.50	35.50	28.83	11.53	-	25.21	34.19	23.06	2250	4
FO-60L-2250	2000-2250	1.70	6151.60	37.84	28.43	10	-	29.34	39.80	26.85	2250	5
FO-60L-2500	2250-2500	1.70	6342.70	40.26	27.77	8.18	-	33.88	45.95	31.00	2250	5
FO-60L-2750	2500-2750	1.70	6533.80	42.69	26.84	6.04	-	38.83	52.67	35.53	2250	6
FO-60L-3000	2750-3000	1.70	6724.99	45.22	25.61	3.58	-	44.22	59.98	40.46	2250	6

FO-JT Range: J-Tube Supports

For use with J-tubes and Cables



Soil Bearing Capacity

Sandy	2.44 Tonnes/m ²
Soft	1.46 Tonnes/m ²
Very soft	0.97 Tonnes/m ²

Notes

1. Diver deployed bags include fixing straps, injection sleeves and vent pipes.
2. Volume and cement quantities are a guide for each size of bag, subject to cement type and grout density.
3. The cement quantities indicated do not account for overage.
4. A reduction in the support height will result in less cement usage.
5. Installation is by divers.

Order Code	Height (mm) A	Length (mm) B	Width (mm) C	Cable Bearing Width (mm) D	Soil Bearing Capacity (Tonne)	Pay Load (Tonne)			Grout Volume (m ³)	Cement (Tonne)	Submerged Weight (Tonne)	No of Fill Stages
						Sandy	Soft	Very Soft				
J-T 1000	1000	2300	2500	1000	0.41	9.80	5.88	3.92	2.10	2.90	1.90	3
J-T 1200	1200	2750	2700	1000	0.46	12.24	7.43	4.57	2.90	4.10	2.70	4
J-T 1400	1400	3200	2900	1000	0.50	15.19	9.12	6.08	3.90	5.60	3.60	4
J-T 1600	1600	3600	3100	1000	0.56	17.97	10.79	7.19	5.10	7.30	4.70	5
J-T 1800	1800	4050	3300	1000	0.62	21.20	12.72	8.49	6.50	9.30	6.10	5
J-T 2000	2000	4450	3500	1000	0.67	24.38	14.63	9.75	8.20	11.70	7.60	6
J-T 2200	2200	4900	3700	1000	0.73	28.04	16.82	11.22	10.10	14.40	9.40	7
J-T 2400	2400	5350	3900	1000	0.78	31.92	19.15	12.77	12.30	17.40	11.40	7
J-T 2600	2600	5700	4100	1000	0.87	35.40	21.37	14.16	14.70	20.90	13.70	8

Custom Formworks

FoundOcean provides clients with a single source for the design, manufacture, and installation of a wide range of high-quality grout bags.

The formworks are manufactured at our DNV-accredited facility in Mumbai, India, in conjunction with our joint-venture partner.

Our formworks can be designed to meet the need of any project including:

- freespan correction
- supporting monopile j-tubes
- crossover support formworks
- overlay mattresses and sleeves for protection
- jacking-up subsea structures
- jacket stabilisation
- scour prevention and rehabilitation solutions

FoundOcean fabric formworks have also been used for a wide variety of custom projects including the raising of the Costa Concordia in 2013. The project required 1,269 specially designed fabric formworks and 20,000 tonnes of cement to create an artificial seabed for the vessel to be rolled onto.

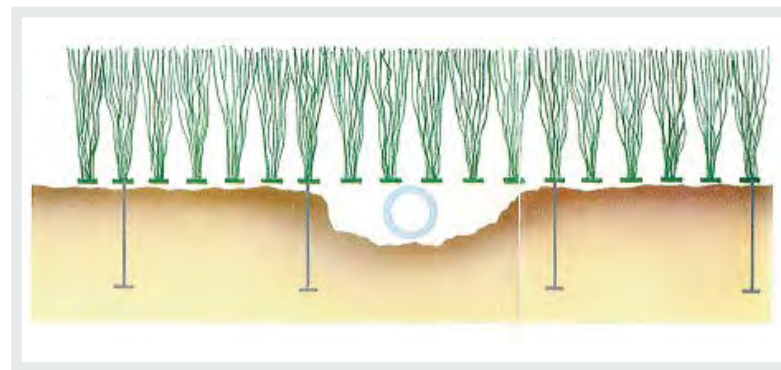
FoundOcean provides specialist grout mixing equipment together with experienced personnel for the successful installation of the formworks. Because FoundOcean is involved in the offshore work, all formwork designs take account of the technical aspects of installation.

Anti-Scour Formworks

FoundOcean developed ScourMat to provide a permanent solution to scour where high currents can cause stability issues in underwater structures.

The ScourMat is an array of buoyant polypropylene fronds which open out to form a fan like array. They slow down the local current and cause particulate matter to settle. This builds up a new sand bank, effectively reinstating the seabed. This fibre reinforced sand bank will then resist further erosion. ScourMat does not require further maintenance.

ScourMat can be attached to formworks to both stabilise and support a structure, whilst reinstating the seabed.



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