



Certificate no.:
TAS0000506

TYPE APPROVAL CERTIFICATE

This is to certify:
that the Lift Component

with type designation(s)
Spreader Beams - DL-MS-13; DL-MS-25; DL-MS-50; DL-MS-75; DL-MS-110; DL-MS-170; DL-MS-250

issued to
Durham Lifting Limited
TEESIDE, Cleveland, United Kingdom

is found to comply with
DNV standard DNV-ST-0378 – Offshore and platform lifting appliances

Application:

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Issued at **Høvik** on **2025-10-30**

This Certificate is valid until **2030-10-29**.

for **DNV**

DNV local unit: **UK & Ireland CMC & VMC**

Approval Engineer: **Thomas Henrik Tranesen**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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Product description

Spreader beams with different configuration between the end units and struts as specified in Application/Limitation

Application/Limitation

Design temperature: -20°

Dynamic amplification factor: See "Application and comments"

Abbreviations: EU - End Unit component

The configurations other than specified in the following tables shall be specially considered in each case.

13t SWL @ 30° sling to vertical

Span [m]	No. of components (incl. EU)	EU		Range of strut lengths					
		0.5m	6m	4m	2m	1m	0.75m	0.5m	0.25m
1	2	2	0	0	0	0	0	0	0
1.25	3	2	0	0	0	0	0	0	1
1.5	3	2	0	0	0	0	0	1	0
1.75	3	2	0	0	0	0	1	0	0
2	3	2	0	0	0	1	0	0	0
2.25	4	2	0	0	0	1	0	0	1
2.5	4	2	0	0	0	1	0	1	0
2.75	4	2	0	0	0	1	1	0	0
3	3	2	0	0	1	0	0	0	0
3.25	4	2	0	0	1	0	0	0	1
3.5	4	2	0	0	1	0	0	1	0
3.75	4	2	0	0	1	0	1	0	0
4	4	2	0	0	1	1	0	0	0
4.25	5	2	0	0	1	1	0	0	1
4.5	5	2	0	0	1	1	0	1	0
4.75	5	2	0	0	1	1	1	0	0
5	3	2	0	1	0	0	0	0	0
5.25	4	2	0	1	0	0	0	0	1
5.5	4	2	0	1	0	0	0	1	0
5.75	4	2	0	1	0	0	1	0	0

13t SWL @ 45° sling to vertical

Span [m]	No. of components (incl. EU)	EU		Range of strut lengths					
		0.5m	6m	4m	2m	1m	0.75m	0.5m	0.25m
1	2	2	0	0	0	0	0	0	0
1.25	3	2	0	0	0	0	0	0	1
1.5	3	2	0	0	0	0	0	1	0
1.75	3	2	0	0	0	0	1	0	0
2	3	2	0	0	0	1	0	0	0
2.25	4	2	0	0	0	1	0	0	1
2.5	4	2	0	0	0	1	0	1	0
2.75	4	2	0	0	0	1	1	0	0
3	3	2	0	0	1	0	0	0	0
3.25	4	2	0	0	1	0	0	0	1
3.5	4	2	0	0	1	0	0	1	0
3.75	4	2	0	0	1	0	1	0	0
4	4	2	0	0	1	1	0	0	0

25t SWL @ 30° sling to vertical

Span [m]	No. of components (incl. EU)	EU	Range of strut lengths						
		0.5m	6m	4m	2m	1m	0.75m	0.5m	0.25m
1	2	2	0	0	0	0	0	0	0
1.25	3	2	0	0	0	0	0	0	1
1.5	3	2	0	0	0	0	0	1	0
1.75	3	2	0	0	0	0	1	0	0
2	3	2	0	0	0	1	0	0	0
2.25	4	2	0	0	0	1	0	0	1
2.5	4	2	0	0	0	1	0	1	0
2.75	4	2	0	0	0	1	1	0	0
3	3	2	0	0	1	0	0	0	0
3.25	4	2	0	0	1	0	0	0	1
3.5	4	2	0	0	1	0	0	1	0
3.75	4	2	0	0	1	0	1	0	0
4	4	2	0	0	1	1	0	0	0
4.25	5	2	0	0	1	1	0	0	1
4.5	5	2	0	0	1	1	0	1	0
4.75	5	2	0	0	1	1	1	0	0
5	3	2	0	1	0	0	0	0	0
5.25	4	2	0	1	0	0	0	0	1
5.5	4	2	0	1	0	0	0	1	0
5.75	4	2	0	1	0	0	1	0	0
6	4	2	0	1	0	1	0	0	0
6.25	5	2	0	1	0	1	0	0	1
6.5	5	2	0	1	0	1	0	1	0
6.75	5	2	0	1	0	1	1	0	0
7	3	2	1	0	0	0	0	0	0
7.25	4	2	1	0	0	0	0	0	1

25t SWL @ 45° sling to vertical

Span [m]	No. of components (incl. EU)	EU	Range of strut lengths						
		0.5m	6m	4m	2m	1m	0.75m	0.5m	0.25m
1	2	2	0	0	0	0	0	0	0
1.25	3	2	0	0	0	0	0	0	1
1.5	3	2	0	0	0	0	0	1	0
1.75	3	2	0	0	0	0	1	0	0
2	3	2	0	0	0	1	0	0	0
2.25	4	2	0	0	0	1	0	0	1
2.5	4	2	0	0	0	1	0	1	0
2.75	4	2	0	0	0	1	1	0	0
3	3	2	0	0	1	0	0	0	0
3.25	4	2	0	0	1	0	0	0	1
3.5	4	2	0	0	1	0	0	1	0
3.75	4	2	0	0	1	0	1	0	0
4	4	2	0	0	1	1	0	0	0
4.25	5	2	0	0	1	1	0	0	1
4.5	5	2	0	0	1	1	0	1	0
4.75	5	2	0	0	1	1	1	0	0
5	3	2	0	1	0	0	0	0	0
5.25	4	2	0	1	0	0	0	0	1
5.5	4	2	0	1	0	0	0	1	0

50t SWL @ 30° sling to vertical

Span [m]	No. of components (incl. EU)	EU	Range of strut lengths						
		0.5m	6m	4m	2m	1m	0.75m	0.5m	0.25m
1	2	2	0	0	0	0	0	0	0
1.25	3	2	0	0	0	0	0	0	1
1.5	3	2	0	0	0	0	0	1	0
1.75	3	2	0	0	0	0	1	0	0
2	3	2	0	0	0	1	0	0	0
2.25	4	2	0	0	0	1	0	0	1
2.5	4	2	0	0	0	1	0	1	0
2.75	4	2	0	0	0	1	1	0	0
3	3	2	0	0	1	0	0	0	0
3.25	4	2	0	0	1	0	0	0	1
3.5	4	2	0	0	1	0	0	1	0
3.75	4	2	0	0	1	0	1	0	0
4	4	2	0	0	1	1	0	0	0
4.25	5	2	0	0	1	1	0	0	1
4.5	5	2	0	0	1	1	0	1	0
4.75	5	2	0	0	1	1	1	0	0
5	3	2	0	1	0	0	0	0	0
5.25	4	2	0	1	0	0	0	0	1
5.5	4	2	0	1	0	0	0	1	0
5.75	4	2	0	1	0	0	1	0	0
6	4	2	0	1	0	1	0	0	0
6.25	5	2	0	1	0	1	0	0	1
6.5	5	2	0	1	0	1	0	1	0
6.75	5	2	0	1	0	1	1	0	0
7	3	2	1	0	0	0	0	0	0
7.25	4	2	1	0	0	0	0	0	1
7.5	4	2	1	0	0	0	0	1	0
7.75	4	2	1	0	0	0	1	0	0
8	4	2	1	0	0	1	0	0	0
8.25	5	2	1	0	0	1	0	0	1
8.5	5	2	1	0	0	1	0	1	0
8.75	5	2	1	0	0	1	1	0	0
9	4	2	1	0	1	0	0	0	0
9.25	5	2	1	0	1	0	0	0	1
9.5	5	2	1	0	1	0	0	1	0
9.75	5	2	1	0	1	0	1	0	0

50t SWL @ 45° sling to vertical

Span [m]	No. of components (incl. EU)	EU	Range of strut lengths						
		0.5m	6m	4m	2m	1m	0.75m	0.5m	0.25m
1	2	2	0	0	0	0	0	0	0
1.25	3	2	0	0	0	0	0	0	1
1.5	3	2	0	0	0	0	0	1	0
1.75	3	2	0	0	0	0	1	0	0
2	3	2	0	0	0	1	0	0	0
2.25	4	2	0	0	0	1	0	0	1
2.5	4	2	0	0	0	1	0	1	0
2.75	4	2	0	0	0	1	1	0	0
3	3	2	0	0	1	0	0	0	0
3.25	4	2	0	0	1	0	0	0	1
3.5	4	2	0	0	1	0	0	1	0
3.75	4	2	0	0	1	0	1	0	0

4	4	2	0	0	1	1	0	0	0
4.25	5	2	0	0	1	1	0	0	1
4.5	5	2	0	0	1	1	0	1	0
4.75	5	2	0	0	1	1	1	0	0
5	3	2	0	1	0	0	0	0	0
5.25	4	2	0	1	0	0	0	0	1
5.5	4	2	0	1	0	0	0	1	0
5.75	4	2	0	1	0	0	1	0	0
6	4	2	0	1	0	1	0	0	0
6.25	5	2	0	1	0	1	0	0	1
6.5	5	2	0	1	0	1	0	1	0
6.75	5	2	0	1	0	1	1	0	0
7	3	2	1	0	0	0	0	0	0
7.25	4	2	1	0	0	0	0	0	1
7.5	4	2	1	0	0	0	0	1	0

75t SWL @ 30° sling to vertical

		EU	Range of strut lengths						
Span [m]	No. of components (incl. EU)	0.5m	6m	4m	2m	1m	0.75m	0.5m	0.25m
1.5	2	2	0	0	0	0	0	0	0
1.75	3	2	0	0	0	0	0	0	1
2	3	2	0	0	0	0	0	1	0
2.25	3	2	0	0	0	0	1	0	0
2.5	3	2	0	0	0	1	0	0	0
2.75	4	2	0	0	0	1	0	0	1
3	4	2	0	0	0	1	0	1	0
3.25	4	2	0	0	0	1	1	0	0
3.5	3	2	0	0	1	0	0	0	0
3.75	4	2	0	0	1	0	0	0	1
4	4	2	0	0	1	0	0	1	0
4.25	4	2	0	0	1	0	1	0	0
4.5	4	2	0	0	1	1	0	0	0
4.75	5	2	0	0	1	1	0	0	1
5	5	2	0	0	1	1	0	1	0
5.25	5	2	0	0	1	1	1	0	0
5.5	3	2	0	1	0	0	0	0	0
5.75	4	2	0	1	0	0	0	0	1
6	4	2	0	1	0	0	0	1	0
6.25	4	2	0	1	0	0	1	0	0
6.5	4	2	0	1	0	1	0	0	0
6.75	5	2	0	1	0	1	0	0	1
7	5	2	0	1	0	1	0	1	0
7.25	5	2	0	1	0	1	1	0	0
7.5	3	2	1	0	0	0	0	0	0
7.75	4	2	1	0	0	0	0	0	1
8	4	2	1	0	0	0	0	1	0
8.25	4	2	1	0	0	0	1	0	0
8.5	4	2	1	0	0	1	0	0	0
8.75	5	2	1	0	0	1	0	0	1
9	5	2	1	0	0	1	0	1	0
9.25	5	2	1	0	0	1	1	0	0
9.5	4	2	1	0	1	0	0	0	0
9.75	5	2	1	0	1	0	0	0	1
10	5	2	1	0	1	0	0	1	0
10.25	5	2	1	0	1	0	1	0	0
10.5	5	2	1	0	1	1	0	0	0
10.75	6	2	1	0	1	1	0	0	1
11	6	2	1	0	1	1	0	1	0

11.25	6	2	1	0	1	1	1	0	0
11.5	4	2	1	1	0	0	0	0	0
11.75	5	2	1	1	0	0	0	0	1
12	5	2	1	1	0	0	0	1	0

75t SWL @ 45° sling to vertical

Span [m]	No. of components (incl. EU)	EU		Range of strut lengths					
		0.5m	6m	4m	2m	1m	0.75m	0.5m	0.25m
1.5	2	2	0	0	0	0	0	0	0
1.75	3	2	0	0	0	0	0	0	1
2	3	2	0	0	0	0	0	1	0
2.25	3	2	0	0	0	0	1	0	0
2.5	3	2	0	0	0	1	0	0	0
2.75	4	2	0	0	0	1	0	0	1
3	4	2	0	0	0	1	0	1	0
3.25	4	2	0	0	0	1	1	0	0
3.5	3	2	0	0	1	0	0	0	0
3.75	4	2	0	0	1	0	0	0	1
4	4	2	0	0	1	0	0	1	0
4.25	4	2	0	0	1	0	1	0	0
4.5	4	2	0	0	1	1	0	0	0
4.75	5	2	0	0	1	1	0	0	1
5	5	2	0	0	1	1	0	1	0
5.25	5	2	0	0	1	1	1	0	0
5.5	3	2	0	1	0	0	0	0	0
5.75	4	2	0	1	0	0	0	0	1
6	4	2	0	1	0	0	0	1	0
6.25	4	2	0	1	0	0	1	0	0
6.5	4	2	0	1	0	1	0	0	0
6.75	5	2	0	1	0	1	0	0	1
7	5	2	0	1	0	1	0	1	0
7.25	5	2	0	1	0	1	1	0	0
7.5	3	2	1	0	0	0	0	0	0
7.75	4	2	1	0	0	0	0	0	1
8	4	2	1	0	0	0	0	1	0
8.25	4	2	1	0	0	0	1	0	0
8.5	4	2	1	0	0	1	0	0	0
8.75	5	2	1	0	0	1	0	0	1
9	5	2	1	0	0	1	0	1	0

110t SWL @ 30° sling to vertical

Span [m]	No. of components (incl. EU)	EU		Range of strut lengths					
		0.5m	6m	4m	2m	1m	0.75m	0.5m	0.25m
1.5	2	2	0	0	0	0	0	0	0
1.75	3	2	0	0	0	0	0	0	1
2	3	2	0	0	0	0	0	1	0
2.25	3	2	0	0	0	0	1	0	0
2.5	3	2	0	0	0	1	0	0	0
2.75	4	2	0	0	0	1	0	0	1
3	4	2	0	0	0	1	0	1	0
3.25	4	2	0	0	0	1	1	0	0
3.5	3	2	0	0	1	0	0	0	0
3.75	4	2	0	0	1	0	0	0	1
4	4	2	0	0	1	0	0	1	0
4.25	4	2	0	0	1	0	1	0	0
4.5	4	2	0	0	1	1	0	0	0

4.75	5	2	0	0	1	1	0	0	1
5	5	2	0	0	1	1	0	1	0
5.25	5	2	0	0	1	1	1	0	0
5.5	3	2	0	1	0	0	0	0	0
5.75	4	2	0	1	0	0	0	0	1
6	4	2	0	1	0	0	0	1	0
6.25	4	2	0	1	0	0	1	0	0
6.5	4	2	0	1	0	1	0	0	0
6.75	5	2	0	1	0	1	0	0	1
7	5	2	0	1	0	1	0	1	0
7.25	5	2	0	1	0	1	1	0	0
7.5	3	2	1	0	0	0	0	0	0
7.75	4	2	1	0	0	0	0	0	1
8	4	2	1	0	0	0	0	1	0
8.25	4	2	1	0	0	0	1	0	0
8.5	4	2	1	0	0	1	0	0	0
8.75	5	2	1	0	0	1	0	0	1
9	5	2	1	0	0	1	0	1	0
9.25	5	2	1	0	0	1	1	0	0
9.5	4	2	1	0	1	0	0	0	0
9.75	5	2	1	0	1	0	0	0	1
10	5	2	1	0	1	0	0	1	0
10.25	5	2	1	0	1	0	1	0	0
10.5	5	2	1	0	1	1	0	0	0
10.75	6	2	1	0	1	1	0	0	1
11	6	2	1	0	1	1	0	1	0
11.25	6	2	1	0	1	1	1	0	0
11.5	4	2	1	1	0	0	0	0	0
11.75	5	2	1	1	0	0	0	0	1
12	5	2	1	1	0	0	0	1	0
12.25	5	2	1	1	0	0	1	0	0
12.5	5	2	1	1	0	1	0	0	0
12.75	6	2	1	1	0	1	0	0	1
13	6	2	1	1	0	1	0	1	0
13.25	6	2	1	1	0	1	1	0	0
13.5	4	2	2	0	0	0	0	0	0
13.75	5	2	2	0	0	0	0	0	1
14	5	2	2	0	0	0	0	1	0
14.25	5	2	2	0	0	0	1	0	0
14.5	5	2	2	0	0	1	0	0	0

110t SWL @ 45° sling to vertical

		EU	Range of strut lengths						
Span [m]	No. of components (incl. EU)	0.5m	6m	4m	2m	1m	0.75m	0.5m	0.25m
1.5	2	2	0	0	0	0	0	0	0
1.75	3	2	0	0	0	0	0	0	1
2	3	2	0	0	0	0	0	1	0
2.25	3	2	0	0	0	0	1	0	0
2.5	3	2	0	0	0	1	0	0	0
2.75	4	2	0	0	0	1	0	0	1
3	4	2	0	0	0	1	0	1	0
3.25	4	2	0	0	0	1	1	0	0
3.5	3	2	0	0	1	0	0	0	0
3.75	4	2	0	0	1	0	0	0	1
4	4	2	0	0	1	0	0	1	0
4.25	4	2	0	0	1	0	1	0	0
4.5	4	2	0	0	1	1	0	0	0
4.75	5	2	0	0	1	1	0	0	1

5	5	2	0	0	1	1	0	1	0
5.25	5	2	0	0	1	1	1	0	0
5.5	3	2	0	1	0	0	0	0	0
5.75	4	2	0	1	0	0	0	0	1
6	4	2	0	1	0	0	0	1	0
6.25	4	2	0	1	0	0	1	0	0
6.5	4	2	0	1	0	1	0	0	0
6.75	5	2	0	1	0	1	0	0	1
7	5	2	0	1	0	1	0	1	0
7.25	5	2	0	1	0	1	1	0	0
7.5	3	2	1	0	0	0	0	0	0
7.75	4	2	1	0	0	0	0	0	1
8	4	2	1	0	0	0	0	1	0
8.25	4	2	1	0	0	0	1	0	0
8.5	4	2	1	0	0	1	0	0	0
8.75	5	2	1	0	0	1	0	0	1
9	5	2	1	0	0	1	0	1	0
9.25	5	2	1	0	0	1	1	0	0
9.5	4	2	1	0	1	0	0	0	0
9.75	5	2	1	0	1	0	0	0	1
10	5	2	1	0	1	0	0	1	0
10.25	5	2	1	0	1	0	1	0	0
10.5	5	2	1	0	1	1	0	0	0
10.75	6	2	1	0	1	1	0	0	1
11	6	2	1	0	1	1	0	1	0

170t SWL @ 30° sling to vertical

		EU	Range of strut lengths						
Span [m]	No. of components (incl. EU)	0.5m	6m	4m	2m	1m	0.75m	0.5m	0.25m
1.5	2	2	0	0	0	0	0	0	0
1.75	3	2	0	0	0	0	0	0	1
2	3	2	0	0	0	0	0	1	0
2.25	3	2	0	0	0	0	1	0	0
2.5	3	2	0	0	0	1	0	0	0
2.75	4	2	0	0	0	1	0	0	1
3	4	2	0	0	0	1	0	1	0
3.25	4	2	0	0	0	1	1	0	0
3.5	3	2	0	0	1	0	0	0	0
3.75	4	2	0	0	1	0	0	0	1
4	4	2	0	0	1	0	0	1	0
4.25	4	2	0	0	1	0	1	0	0
4.5	4	2	0	0	1	1	0	0	0
4.75	5	2	0	0	1	1	0	0	1
5	5	2	0	0	1	1	0	1	0
5.25	5	2	0	0	1	1	1	0	0
5.5	3	2	0	1	0	0	0	0	0
5.75	4	2	0	1	0	0	0	0	1
6	4	2	0	1	0	0	0	1	0
6.25	4	2	0	1	0	0	1	0	0
6.5	4	2	0	1	0	1	0	0	0
6.75	5	2	0	1	0	1	0	0	1
7	5	2	0	1	0	1	0	1	0
7.25	5	2	0	1	0	1	1	0	0
7.5	3	2	1	0	0	0	0	0	0
7.75	4	2	1	0	0	0	0	0	1
8	4	2	1	0	0	0	0	1	0
8.25	4	2	1	0	0	0	1	0	0
8.5	4	2	1	0	0	1	0	0	0

8.75	5	2	1	0	0	1	0	0	1
9	5	2	1	0	0	1	0	1	0
9.25	5	2	1	0	0	1	1	0	0
9.5	4	2	1	0	1	0	0	0	0
9.75	5	2	1	0	1	0	0	0	1
10	5	2	1	0	1	0	0	1	0
10.25	5	2	1	0	1	0	1	0	0
10.5	5	2	1	0	1	1	0	0	0
10.75	6	2	1	0	1	1	0	0	1
11	6	2	1	0	1	1	0	1	0
11.25	6	2	1	0	1	1	1	0	0
11.5	4	2	1	1	0	0	0	0	0
11.75	5	2	1	1	0	0	0	0	1
12	5	2	1	1	0	0	0	1	0
12.25	5	2	1	1	0	0	1	0	0
12.5	5	2	1	1	0	1	0	0	0
12.75	6	2	1	1	0	1	0	0	1
13	6	2	1	1	0	1	0	1	0
13.25	6	2	1	1	0	1	1	0	0
13.5	4	2	2	0	0	0	0	0	0
13.75	5	2	2	0	0	0	0	0	1
14	5	2	2	0	0	0	0	1	0
14.25	5	2	2	0	0	0	1	0	0
14.5	5	2	2	0	0	1	0	0	0

170t SWL @ 45° sling to vertical

Span [m]	No. of components (incl. EU)	EU	Range of strut lengths						
		0.5m	6m	4m	2m	1m	0.75m	0.5m	0.25m
1.5	2	2	0	0	0	0	0	0	0
1.75	3	2	0	0	0	0	0	0	1
2	3	2	0	0	0	0	0	1	0
2.25	3	2	0	0	0	0	1	0	0
2.5	3	2	0	0	0	1	0	0	0
2.75	4	2	0	0	0	1	0	0	1
3	4	2	0	0	0	1	0	1	0
3.25	4	2	0	0	0	1	1	0	0
3.5	3	2	0	0	1	0	0	0	0
3.75	4	2	0	0	1	0	0	0	1
4	4	2	0	0	1	0	0	1	0
4.25	4	2	0	0	1	0	1	0	0
4.5	4	2	0	0	1	1	0	0	0
4.75	5	2	0	0	1	1	0	0	1
5	5	2	0	0	1	1	0	1	0
5.25	5	2	0	0	1	1	1	0	0
5.5	3	2	0	1	0	0	0	0	0
5.75	4	2	0	1	0	0	0	0	1
6	4	2	0	1	0	0	0	1	0
6.25	4	2	0	1	0	0	1	0	0
6.5	4	2	0	1	0	1	0	0	0
6.75	5	2	0	1	0	1	0	0	1
7	5	2	0	1	0	1	0	1	0
7.25	5	2	0	1	0	1	1	0	0
7.5	3	2	1	0	0	0	0	0	0
7.75	4	2	1	0	0	0	0	0	1
8	4	2	1	0	0	0	0	1	0
8.25	4	2	1	0	0	0	1	0	0
8.5	4	2	1	0	0	1	0	0	0
8.75	5	2	1	0	0	1	0	0	1

9	5	2	1	0	0	1	0	1	0
9.25	5	2	1	0	0	1	1	0	0
9.5	4	2	1	0	1	0	0	0	0
9.75	5	2	1	0	1	0	0	0	1
10	5	2	1	0	1	0	0	1	0
10.25	5	2	1	0	1	0	1	0	0
10.5	5	2	1	0	1	1	0	0	0
10.75	6	2	1	0	1	1	0	0	1
11	6	2	1	0	1	1	0	1	0

250t SWL @ 30° sling to vertical

Span [m]	No. of components (incl. EU)	EU	Range of strut lengths						
		0.5m	6m	4m	2m	1m	0.75m	0.5m	0.25m
1.5	2	2	0	0	0	0	0	0	0
1.75	3	2	0	0	0	0	0	0	1
2	3	2	0	0	0	0	0	1	0
2.25	3	2	0	0	0	0	1	0	0
2.5	3	2	0	0	0	1	0	0	0
2.75	4	2	0	0	0	1	0	0	1
3	4	2	0	0	0	1	0	1	0
3.25	4	2	0	0	0	1	1	0	0
3.5	3	2	0	0	1	0	0	0	0
3.75	4	2	0	0	1	0	0	0	1
4	4	2	0	0	1	0	0	1	0
4.25	4	2	0	0	1	0	1	0	0
4.5	4	2	0	0	1	1	0	0	0
4.75	5	2	0	0	1	1	0	0	1
5	5	2	0	0	1	1	0	1	0
5.25	5	2	0	0	1	1	1	0	0
5.5	3	2	0	1	0	0	0	0	0
5.75	4	2	0	1	0	0	0	0	1
6	4	2	0	1	0	0	0	1	0
6.25	4	2	0	1	0	0	1	0	0
6.5	4	2	0	1	0	1	0	0	0
6.75	5	2	0	1	0	1	0	0	1
7	5	2	0	1	0	1	0	1	0
7.25	5	2	0	1	0	1	1	0	0
7.5	3	2	1	0	0	0	0	0	0
7.75	4	2	1	0	0	0	0	0	1
8	4	2	1	0	0	0	0	1	0
8.25	4	2	1	0	0	0	1	0	0
8.5	4	2	1	0	0	1	0	0	0
8.75	5	2	1	0	0	1	0	0	1
9	5	2	1	0	0	1	0	1	0
9.25	5	2	1	0	0	1	1	0	0
9.5	4	2	1	0	1	0	0	0	0
9.75	5	2	1	0	1	0	0	0	1
10	5	2	1	0	1	0	0	1	0
10.25	5	2	1	0	1	0	1	0	0
10.5	5	2	1	0	1	1	0	0	0
10.75	6	2	1	0	1	1	0	0	1
11	6	2	1	0	1	1	0	1	0
11.25	6	2	1	0	1	1	1	0	0
11.5	4	2	1	1	0	0	0	0	0
11.75	5	2	1	1	0	0	0	0	1
12	5	2	1	1	0	0	0	1	0
12.25	5	2	1	1	0	0	1	0	0
12.5	5	2	1	1	0	1	0	0	0

12.75	6	2	1	1	0	1	0	0	1
13	6	2	1	1	0	1	0	1	0
13.25	6	2	1	1	0	1	1	0	0
13.5	4	2	2	0	0	0	0	0	0
13.75	5	2	2	0	0	0	0	0	1
14	5	2	2	0	0	0	0	1	0
14.25	5	2	2	0	0	0	1	0	0
14.5	5	2	2	0	0	1	0	0	0
14.75	6	2	2	0	0	1	0	0	1
15	6	2	2	0	0	1	0	1	0
15.25	6	2	2	0	0	1	1	0	0
15.5	5	2	2	0	1	0	0	0	0
15.75	6	2	2	0	1	0	0	0	1
16	6	2	2	0	1	0	0	1	0

250t SWL @ 45° sling to vertical

		EU	Range of strut lengths						
Span [m]	No. of components (incl. EU)	0.5m	6m	4m	2m	1m	0.75m	0.5m	0.25m
1.5	2	2	0	0	0	0	0	0	0
1.75	3	2	0	0	0	0	0	0	1
2	3	2	0	0	0	0	0	1	0
2.25	3	2	0	0	0	0	1	0	0
2.5	3	2	0	0	0	1	0	0	0
2.75	4	2	0	0	0	1	0	0	1
3	4	2	0	0	0	1	0	1	0
3.25	4	2	0	0	0	1	1	0	0
3.5	3	2	0	0	1	0	0	0	0
3.75	4	2	0	0	1	0	0	0	1
4	4	2	0	0	1	0	0	1	0
4.25	4	2	0	0	1	0	1	0	0
4.5	4	2	0	0	1	1	0	0	0
4.75	5	2	0	0	1	1	0	0	1
5	5	2	0	0	1	1	0	1	0
5.25	5	2	0	0	1	1	1	0	0
5.5	3	2	0	1	0	0	0	0	0
5.75	4	2	0	1	0	0	0	0	1
6	4	2	0	1	0	0	0	1	0
6.25	4	2	0	1	0	0	1	0	0
6.5	4	2	0	1	0	1	0	0	0
6.75	5	2	0	1	0	1	0	0	1
7	5	2	0	1	0	1	0	1	0
7.25	5	2	0	1	0	1	1	0	0
7.5	3	2	1	0	0	0	0	0	0
7.75	4	2	1	0	0	0	0	0	1
8	4	2	1	0	0	0	0	1	0
8.25	4	2	1	0	0	0	1	0	0
8.5	4	2	1	0	0	1	0	0	0
8.75	5	2	1	0	0	1	0	0	1
9	5	2	1	0	0	1	0	1	0
9.25	5	2	1	0	0	1	1	0	0
9.5	4	2	1	0	1	0	0	0	0
9.75	5	2	1	0	1	0	0	0	1
10	5	2	1	0	1	0	0	1	0

Type Approval documentation

Application and comments

1. Categorization as Lifting beam (ref. DNV-ST-0378 §5.2.9.6), requires absolute control of the load magnitude during lifting e.g. by means of limiting the maximum hoisting speed based on the crane geometry and stiffness for the specific operation. This is not considered in this Type Approval Certificate and remains in responsibility of the operator. Strict control of dynamic amplification factor is demanded.
2. It is the operator's responsibility to ensure that the lifting operations executed as engineered lifts (see DNV-ST-0378 clauses 1.1.5.22 and 10.1.2.2), the real dynamic coefficient does not exceed the design dynamic coefficient.

Tests carried out

1. All materials shall be delivered with 3.1 certificates, documenting mechanical properties and chemical composition in accordance with the Type Approval documentation, and shall comply with DNV-ST-0378 §3.
2. Charpy impact testing of the materials shall be carried out at or below min design temperature in accordance with DNV-ST-0378 §3.2.2.
3. Qualification of welding procedures and qualification of welders shall be in accordance with DNV-ST-0378 §3.11.
4. Each unit shall be load tested in accordance with DNV-ST-0378 §14 and Table 14-2 (test load applicable as for Lifting beams).
5. When a CG3 or DNV product certificate is required by end user or relevant local regulations, testing of the fully assembled lifting beam at final installation shall be carried out in accordance with DNV-ST-0378 Table 14-2 and witnessed by a DNV surveyor. Assembling of the lifting tool at final installation to be carried out by qualified personnel according to assembling procedure.

Marking of product

Each unit shall be marked in accordance with DNV-ST-0378 §14.

Periodical assessment

For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to DNV-CP-0338.

Manufactured by

Durham Lifting Limited

Britannia Test House Romaldkirk Road Middlesbrough
TEESIDE TS2 1HB United Kingdom

END OF CERTIFICATE