

0330867	Project: Oseberg project_OGP			Client: AIBEL AS		
Order no.	Item no.	Client Art. code	LOT No	Heat code	QTY	Description
4500305018	00130	Q-STB0003ZM1L170		RE0543-A154	80,00	BOLT-STUD C/W 2 NUTS M24 170.0MM /ASTM F467/F468 NI625 (UNS N06625)

S&W Corporation
CERTIFICATE OF TEST

EN 10204 3.1

SO No : SN20220928013

CUSTOMER : SCANDINAVIAN FITTINGS AND FLANGES

P/O No. : 11981

POR No. : N/A

PJT.NAME(No.) : N/A

DATE : 2022-12-26

HULL No. : N/A

CERT. No. : QI20221226010-1

0010	STUD B/2HEX N M24X160L	8 ST	
0013	STUD B/2HEX N M24X170L	80 ST	

SR No.	DESCRIPTION		Q'ty	Material	Heat No	Lot No	Heat Treatment(*cxHr)	
							Quenching	Tempering
0010	1	STUD BOLT	8EA	ASTM F468-NI625	RE0543	PD202209290109-1		
0010	2	HEX NUT	16EA	ASTM F467-NI625	RF0357	PD202209290109-2		
0013	1	STUD BOLT	80EA	ASTM F468-NI625	RE0543	PD202209290112-1		
0013	2	HEX NUT	160EA	ASTM F467-NI625	RF0357	PD202209290112-2		

SR No.				C X 100	Mn X 100	Si X 100	P X 1000	S X 1000	Ni X 10	Cr X 10	Mo X 10	Al X 100	Ti X 100	Nb X 10	Co X 100	Fe X 10
S T D	0010	1	1	0	0	0	0	0	580	200	80	0	0	32	0	0
				-10	-50	-50	-15	-15	MIN	-230	-100	-40	-40	-42	-100	-50
	0010	2	1	0	0	0	0	0	580	200	80	0	0	32	0	0
				-10	-50	-50	-15	-15	MIN	-230	-100	-40	-40	-42	-100	-50
	0013	1	1	0	0	0	0	0	580	200	80	0	0	32	0	0
				-10	-50	-50	-15	-15	MIN	-230	-100	-40	-40	-42	-100	-50
	0013	2	1	0	0	0	0	0	580	200	80	0	0	32	0	0
				-10	-50	-50	-15	-15	MIN	-230	-100	-40	-40	-42	-100	-50
A C T	0010	1	1	4.7	19.6	20.0	2.4	1.8	607.5	218.1	92.5	29.8	32.1	34.2	25.7	30.4
	0010	2	1	4.6	17.8	16.5	2.0	2.3	603.8	213.4	92.1	28.7	32.1	35.2	31.3	38.8
	0013	1	1	4.7	19.6	20.0	2.4	1.8	607.5	218.1	92.5	29.8	32.1	34.2	25.7	30.4
	0013	2	1	4.6	17.8	16.5	2.0	2.3	603.8	213.4	92.1	28.7	32.1	35.2	31.3	38.8

SR No.				TENSILE TEST			EL(%)	R/A(%)	HARDNESS		IMPACT TEST CONDITION			
				Y/S	T/S	UNIT								
S T D	0010	1	1	415 MIN	825 MIN	MPa	30 MIN		HRC	35 MAX				
	0010	2	1						HRC	35 MAX				
	0013	1	1	415 MIN	825 MIN	MPa	30 MIN		HRC	35 MAX				
	0013	2	1						HRC	35 MAX				
A C T	0010	1	1	735.22	975.34	MPa			HRC	23.5	TENSILE SPECIMEN		IMPACT TEST RESULT	
	0010	2	1						HRC	25.0	FULL SIZE			
	0013	1	1	735.22	975.34	MPa			HRC	23.5	FULL SIZE			
	0013	2	1						HRC	25.0				

SR No.				PROOF LOAD		FULL SIZE TEST		T.COEF
S T D	0010	2	1	146,495	N			
	0013	2	1	146,495	N			
A C T	0010	2	1	ACCEPTED				
	0013	2	1	ACCEPTED				
				★ SR No.				
				A: Item No., B: Traveler No., C: Specimen No.				

REMARKS

- * Melting Method: VIM+ESR
- * Solution annealed
 - Bolt : 1000°Cx0.5HxO.C
 - Nut : 1000°Cx0.5HxO.C
- * ID No.: RE0543(BOLT), A154(NUT)
- * Hardness Spec.: HRB 85-HRC 35
- * PMI TEST(100%) : Satisfactory
- * Liquid Penetrant Examination (10%) : No Recordable Indication.
- * NACE MR0175/ISO 15156 : Satisfactory
- * Dimension & Visual Inspection : GOOD
- * App. Code
 - ASTM F468M-06/F467M-06a
 - TR2000 MDS VN708/VN707/DIN976/ISO4032

We hereby certify that the material described herein has been satisfactorily tested as above in accordance with the specification.
 The result of Test & Examination were reported in accordance with EN 10204 3.1

☐ WITNESSED BY :
☐ REVIEWED BY :

MANAGER OF QUALITY:
 CONTROL DEPT.

Our quality system is certified in accordance with ISO 9001-2015 by LRQA.

Chung Sung Gun