

INSPECTION CERTIFICATE

CERTIFICATE NO. :BYF7218

PAGE : 1/7 DATE : 2020-05-25

CUSTOMER

ORDER NO. :RFP-202001403(20-MSCT-10-125417)
SHIPPER :SUMITOMO CORPORATION 057 KEN-7349/6 0-845-N3-5-5-FK4Y-01
COMMODITY :SEAMLESS HOT FINISHED STEEL TUBING WITH VAM TOP HC
STANDARD :ISO GROUP2 GR.L80-TYPE 1 (2014)
SPECIFICATION :TSP-2368RT, TSP-4283RR, TSP-2369RE
MILL WORK NO. :BYF7218 O.D.:5-1/2inch W.T.:20.001b/ft LENGTH:MIN.10.97m MAX.12.19m
QUANTITY:43pcs. TOTAL LENGTH:514.39m MASS:15308kg

HEAT NO. :JOK4375
PRODUCTS PCS. :43

HEAT TREATMENT :QUENCHED & TEMPERED

CHEMICAL COMPOSITION(%)

		*1	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	Ti	B	Al
						*2	*2					*2	*2	*2
SPEC. MIN.		R	-	-	-	-	-	-	80	-	-	-	-	-
MAX.		R	43	45	190	20	10	35	120	25	-	-	2	-
HEAT NO.		L	25	25	81	15	2	1	96	2	1	31	1	43
JOK4375		P	25	24	79	13	2	1	97	2	1	30	1	37
		P	25	24	79	14	2	1	97	2	1	30	1	38

*1 R:LADLE & PRODUCT ANALYSIS L:LADLE ANALYSIS P:PRODUCT ANALYSIS *2:X1000 OTHER:X100

TENSILE TEST

		*1 *2	YS *3	YS *3	TS *3	TS *3	EL %
SPEC. MIN.	HEAT-	L B	M 552	P 80.0	M 655	P 95.0	17
MAX.	LOT NO.	L B	M 655	P 95.0	M -	P -	-
HEAT NO.							
JOK4375	701	L B	M 629	P 91.2	M 733	P 106.3	28
	701	L B	M 623	P 90.4	M 735	P 106.6	30
TYPE OF SPECIMEN:STRIP 25.4mm(1in.) WIDTH *1 SAMPLING DIRECTION L:LONGITUDINAL *2 SAMPLING POSITION B:BASE METAL *3 UNIT M:MPa P:ksi GAUGE LENGTH:50.8mm(2.0in.) KIND OF YS:0.5% EXTENSION UNDER LOAD							

TYPE OF SPECIMEN:STRIP 25.4mm(1in.) WIDTH *1 SAMPLING DIRECTION L:LONGITUDINAL *2 SAMPLING POSITION B:BASE METAL
*3 UNIT M:MPa P:ksi GAUGE LENGTH:50.8mm(2.0in.) KIND OF YS:0.5% EXTENSION UNDER LOAD

IMPACT TEST(-10.0°C +14.0°F 2mm V-Notch 10X7.50)

		*1 *2	*3 *4	AVG				*3 *4	AVG			
SPEC. MIN. MAX.	HEAT- LOT NO.	L B	E J	*5	32/48	48		E F	*5	24/35	35	
		L B	E J		-/-	-		E F		-/-	-	
				[1]	[2]	[3]			[1]	[2]	[3]	
HEAT NO. JOK4375	701	L B	E J	174	161	178	171	E F	128	119	131	126

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE IN ACCORDANCE WITH THE RULES OF THE CONTRACT.



Masayasu Munakata
All documents and certification
reviewed and accepted.
Documents digitally signed on
27/May/20 Page 1 of 7



YUJIN ITO

INTERTEK INDUSTRY SERVICES JAPAN LIMITED

HEAD OF DEPARTMENT
QUALITY ASSURANCE DEPARTMENT

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INSPECTION CERTIFICATE

CERTIFICATE NO. :BYF7218

PAGE : 2/7 DATE : 2020-05-25

IMPACT TEST(-10.0°C +14.0°F 2mm V-Notch 10X7.50)

		*1 *2	*3 *4	AVG			
SPEC. MIN.	HEAT-	L B	S % *6	-	-	-	-
MAX.	LOT NO.	L B	S %	-	-	-	-
				[1]	[2]	[3]	
HEAT NO.							
JOK4375	701	L B	S %	100	100	100	100
[1] [2] [3]: SPECIMEN NO.							
ABSORBED ENERGY							
*5:ABSOLUTE SINGLE VALUE / SINGLE VALUE (ONE CAN BE BELOW AVG) AVG:AVERAGE VALUE OF ONE SET(3 PIECES)							
SHEAR AREA *6:VALUE OF ONE PIECE AVG:AVERAGE VALUE OF ONE SET(3 PIECES)							
*1 SAMPLING DIRECTION L:LONGITUDINAL *2 SAMPLING POSITION B:BASE METAL *3 E:ABSORBED ENERGY S:SHEAR AREA							
*4 UNIT J:Joule F:ft·lbf %:%							

VISUAL & DIMENSIONS: ACCEPTABLE

DRIFT TEST: ACCEPTABLE (O.D.:118.19mm SPECIAL LENGTH:1067mm)

HYDROSTATIC TEST 58.0MPa(8400psi)X5sec.: ACCEPTABLE

ULTRASONIC EXAMINATION(PIPE BODY & END AREA): ACCEPTABLE

APPLICABLE STANDARD: ISO11960 SECTION 10.15

REFERENCE STANDARD: L2 EXTERNAL & INTERNAL LONGITUDINAL & TRANSVERSE NOTCH LENGTH 50mm(2.0in.) WIDTH 1mm(0.040in.)

ULTRASONIC EXAMINATION (LAMINATION): ACCEPTABLE

REFERENCE STANDARD: 6.4mm(0.25in.) FLAT BOTTOMED ROUND HOLE

ELECTRO MAGNETIC EXAMINATION: ACCEPTABLE

APPLICABLE STANDARD: ISO11960 SECTION 10.15

REFERENCE STANDARD: L2 EXTERNAL LONGITUDINAL & TRANSVERSE NOTCH LENGTH 50mm(2.0in.) WIDTH 1mm(0.040in.)

EDDY CURRENT EXAMINATION(END AREA): ACCEPTABLE

APPLICABLE STANDARD: ISO11960 SECTION 10.15

REFERENCE STANDARD: L2 EXTERNAL LONGITUDINAL & TRANSVERSE NOTCH LENGTH 50mm(2.0in.) WIDTH 1mm(0.040in.)

ULTRASONIC WALL THICKNESS CHECK: ACCEPTABLE

THREAD GAUGING: ACCEPTABLE

EQUINOR MATERIAL NO.

517333

TRO048VER.7

EN 10204 3.1

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE IN ACCORDANCE WITH THE RULES OF THE CONTRACT.



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NO.185692K20



NIPPON STEEL

NIPPON STEEL CORPORATION
KANSAI WORKS WAKAYAMA AREA(KAINAN)
260-100, FUNOO, KAINAN, JAPAN

INSPECTION CERTIFICATE

CERTIFICATE NO. :BYZF7218

PAGE : 3/7 DATE :2020-05-25

HARDNESS TEST(HRC)

		*1*2 *3	*4 *5	*V.A.
SPEC. MIN.		B C	- 14.0	-
MAX.		B C	- 23.0	-
HEAT NO.	HEAT- LOT NO.		AVG. QUAD IMPRESSION NO. OUTER WALL -RANT (1) (2) (3) AVG. INNER WALL IMPRESSION NO. (1) (2) (3) AVG.	
JOK4375	701	B C T	19.7 A 19.4 19.8 20.0 19.7 19.8 19.6 19.5 19.6	0.1
	701	B C B	19.3 A 19.5 19.7 18.8 19.3 19.4 19.2 19.4 19.3	0.0
		*ALL	19.5	
*1 SAMPLING POSITION B:BASE METAL *2 LOCATION C:CROSS SECTION *3 SAMPLING LOCATION T:TOP B:BOTTOM *4 EACH				
*5 AVERAGE *V.A.:VARIATION AVERAGE MAX.-MIN. * ALL:ALL AVG.				

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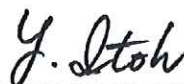
CERTIFICATE NO. :BYZF7218

PAGE : 4/7 DATE :2020-05-25

TEMPERING TEMPERATURE

HEAT NO.	PRODUCT PCS. (PCS.)	HEAT LOT/NO.	SETTING TEMPERING TEMPERATURE (°C)
JOK4375	43	701	685
TOTAL	43		
REMARKS : TEMPERING TEMPERATURE CONTROL RANGE : SETTING TEMPERATURE +,-10°C			

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KANSAI WORKS WAKAYAMA AREA (KAINAN)
260-100, FUNOO, KAINAN, JAPAN

INSPECTION CERTIFICATE(COUPILING)

CERTIFICATE NO. :BYF7218

PAGE : 5/7 DATE :2020-05-25

MATERIAL WORK NO.:BCFF0161, BCFF0174

HEAT TREATMENT:QUENCHED & TEMPERED

CHEMICAL COMPOSITION(%)

		*1	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	Ti	B	Al
			*2		*2		*2		*2		*2		*2	
SPEC. MIN.		R	-	-	-	-	-	-	80	-	-	-	-	-
MAX.		R	43	45	190	20	10	35	120	25	-	-	2	-
HEAT NO.														
J9LA985		L	25	23	77	15	5	1	97	2	1	30	2	35
		P	24	23	75	15	5	1	97	2	2	27	1	30
		P	24	23	75	15	5	1	98	2	2	27	1	28
*1 R:LADLE & PRODUCT ANALYSIS L:LADLE ANALYSIS P:PRODUCT ANALYSIS *2:X1000 OTHER:X100														

TENSILE TEST

PIPE TEST			YS	YS	TS	TS	EL
		*1 *2	*3	*3	*3	*3	%
SPEC. MIN.	PIPE	L B	M 552	P 80.0	M 655	P 95.0	15
MAX.	NO.	L B	M 655	P 95.0	M -	P -	-
HEAT NO.							
J9LA985	1	L B	M 608	P 88.2	M 733	P 106.3	28
	3	L B	M 603	P 87.5	M 730	P 105.9	28
	1	L B	M 600	P 87.0	M 730	P 105.9	27
	2	L B	M 602	P 87.3	M 730	P 105.9	27
TYPE OF SPECIMEN:ROUND BAR 12.7mm(0.5in.) DIAMETER *1 SAMPLING DIRECTION L:LONGITUDINAL							
*2 SAMPLING POSITION B:BASE METAL *3 UNIT M:MPa P:ksi GAUGE LENGTH:50.8mm(2.0in.)							
KIND OF YS:0.5% EXTENSION UNDER LOAD							

IMPACT TEST(-10.0°C +14.0°F 2mm V-Notch 10X10)

		*1 *2	*3 *4				AVG	*3 *4				AVG
SPEC. MIN. MAX.	PIPE NO.	T B	E J	*5	40/60	60		E F	*5	30/44	44	
		T B	E J		-/-	-		E F		-/-	-	
				[1]	[2]	[3]			[1]	[2]	[3]	
HEAT NO. J9LA985	1	T B	E J	127	137	136	133	E F	94	101	100	98
	1	T B	E J	120	133	133	129	E F	89	98	98	95
		*1 *2	*3 *4				AVG					
SPEC. MIN. MAX.	PIPE NO.	T B	S %	*6	-		-					
		T B	S %		-		-					
				[1]	[2]	[3]						
HEAT NO. J9LA985	1	T B	S %	91	87	84	87					
	1	T B	S %	75	90	89	85					

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INSPECTION CERTIFICATE(COUPPLING)

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[1] [2] [3]: SPECIMEN NO.
ABSORBED ENERGY
*5:ABSOLUTE SINGLE VALUE / SINGLE VALUE (ONE CAN BE BELOW AVG) AVG:AVERAGE VALUE OF ONE SET(3 PIECES)
SHEAR AREA *6:VALUE OF ONE PIECE AVG:AVERAGE VALUE OF ONE SET(3 PIECES)
*1 SAMPLING DIRECTION T:TRANSVERSE *2 SAMPLING POSITION B:BASE METAL *3 E:ABSORBED ENERGY S:SHEAR AREA
*4 UNIT J:Joule F:ft·lbf %:%

VISUAL & DIMENSIONS: ACCEPTABLE

MAGNETIC PARTICLE EXAMINATION: ACCEPTABLE

APPLICABLE STANDARD: ISO11960 SECTION 9.12

REFERENCE STANDARD: JIS Z 2320 TYPE A1 EXTERNAL & INTERNAL LONGITUDINAL & TRANSVERSE

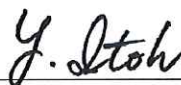
THREAD GAUGING: ACCEPTABLE

EN 10204 3.1

TEST HEAT LOT

MATERIAL WORK NO.	HEAT NO.	HEAT LOT NO.	PIPE NO.
BCFF0161	J9LA985	001	1-3
BCFF0174		001	1-2

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INSPECTION CERTIFICATE(COUPLING)

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PAGE : 7 / 7 DATE :2020-05-25

HARDNESS TEST(HRC)

		*1*2	*3	*4	*5													*V.A.	
SPEC. MIN.		B	C	- 14.0														-	
MAX.		B	C	- 23.0														-	
HEAT NO.	PIPE NO.			AVG.	OUTER WALL				MID WALL				INNER WALL						
				QUAD	IMPRESSION NO.			IMPRESSION NO.			IMPRESSION NO.								
				-RANT	(1)	(2)	(3)	AVG.	(1)	(2)	(3)	AVG.	(1)	(2)	(3)	AVG.			
J9LA985	1	B	C	T	18.9	A	19.0	19.1	19.0	19.0	18.5	19.1	19.1	18.9	18.7	18.9	18.7	18.8	0.2
	3	B	C	B	18.4	A	18.1	18.1	18.1	18.1	18.3	18.4	18.3	18.3	18.5	18.6	18.9	18.7	0.6
	1	B	C	T	18.9	A	18.6	18.9	18.9	18.8	18.9	19.1	19.5	19.2	18.6	18.7	18.9	18.7	0.5
	2	B	C	B	18.5	A	18.7	18.5	18.2	18.5	18.6	19.0	18.9	18.8	17.8	18.3	18.4	18.2	0.6
		*ALL			18.7														
*1 SAMPLING POSITION B:BASE METAL *2 LOCATION C:CROSS SECTION *3 SAMPLING LOCATION T:TOP B:BOTTOM *4 EACH																			
*5 AVERAGE *V.A.:VARIATION AVERAGE MAX.-MIN. * ALL:ALL AVG.																			

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