



NIPPON STEEL & SUMITOMO METAL CORPORATION
 WAKAYAMA WORKS [KAINAN AREA]
 260-100, FUNOO, KAINAN, JAPAN

INSPECTION CERTIFICATE

CERTIFICATE NO. :BYVF7691U PAGE : 1/2 DATE :2018-02-22

CUSTOMER :TRANS AM PIPING PRODUCTS LTD.
 ORDER NO. :CI-17-637 ITEM NO. 9
 SHIPPER :SUMITOMO CORPORATION 057 KEQ 0807/1 7P19S274115
 COMMODITY :SEAMLESS HOT FINISHED CARBON STEEL PIPE WITH BEVELED ENDS
 STANDARD :ASTM A333M-16 / ASME 2015 EDITION SA-333M GR.6
 SPECIFICATION :TSC-2285R3
 MILL WORK NO. :BYVF7691 O. D. :88.9mm W. T. :7.62mm LENGTH:12192mm QUANTITY:50pcs. MASS:9350kg
 HEAT NO. :J7LC615
 PRODUCTS PCS. :50

HEAT TREATMENT :QUENCHED & TEMPERED(910'C X 10min. W.Q. & 640'C X 20min. A.C.)
 MELTING :BASIC OXYGEN
 DEOXIDATION :KILLED

CHEMICAL COMPOSITION (%)

	*1	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	Ti	V	Nb	B *CEQ
					*2	*2					*2			*3
SPEC. MIN.	L	-	10	29	-	-	-	-	-	-	-	-	-	-
MAX.	L	30	-	106	25	25	40	30	40	12	-	8	2	-
HEAT NO.														
J7LC615	L	6	26	129	12	2	1	16	2	4	9	0	0	1

*1 L:LADLE ANALYSIS *2:X1000 *3:X10000 OTHER:X100
 *CEQ:C+F {Mn/6+Si/24+Cu/15+Ni/20+(Cr+Mo+V+Nb)/5+5B} F=COEFFICIENT BY CSA STANDARD

"FOR EACH REDUCTION OF 0.01% CARBON BELOW 0.30%, AN INCREASE OF 0.05% MANGANESE ABOVE 1.06% IS PERMITTED TO A MAXIMUM OF 1.35% MANGANESE."

TENSILE TEST

	*1	*2	YS	TS	EL		
			*3	*3	%		
SPEC. MIN.	L	B	M	240	M	415	29
MAX.	L	B	M	-	M	-	-
HEAT NO.							
J7LC615	L	B	M	410	M	511	37
	L	B	M	412	M	511	36
	L	B	M	401	M	505	35

TYPE OF SPECIMEN:STRIP 19mm WIDTH *1 SAMPLING DIRECTION L:LONGITUDINAL *2 SAMPLING POSITION B:BASE METAL
 *3 UNIT M:MPa GAUGE LENGTH:50.0mm KIND OF YS:0.5% EXTENSION UNDER LOAD

IMPACT TEST (-56.0'C 2mm V-Notch 10X5.00)

	*1	*2	*3	*4	AVG	*3	*4	AVG
SPEC. MIN.	L	B	E	J	*5	7/9	9	L M *6
MAX.	L	B	E	J	-/-	-	-	L M
			[1]	[2]	[3]			[1] [2] [3]
HEAT NO.								
J7LC615	L	B	E	J	179	183	180	181
								L M 1.64 1.82 1.87 1.71

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

Y. Itoh

YUJIN ITO

HEAD OF DEPARTMENT
 QUALITY ASSURANCE DEPARTMENT

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[1] [2] [3]: SPECIMEN NO.
 ABSORBED ENERGY *5:VALUE OF ONE PIECE/EACH VALUE OF TWO PIECES AVG:AVERAGE VALUE OF ONE SET(3 PIECES)
 LATERAL EXPANSION *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 L:LATERAL EXPANSION
 *4 UNIT J:Joule M:mm

FLATTENING TEST: ACCEPTABLE
 VISUAL & DIMENSIONS: ACCEPTABLE
 HYDROSTATIC TEST 17.0MPaX5sec. : ACCEPTABLE
 ULTRASONIC EXAMINATION: ACCEPTABLE
 (NPS3 XS 40FT)
 EN 10204 3.1
 NACE MR0175/ISO15156, NACE MR0103/ISO17945 HARDNESS: GUARANTEED

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