



NIPPON STEEL &  
SUMITOMO METAL  
CORPORATION

NIPPON STEEL & SUMITOMO METAL CORPORATION  
WAKAYAMA WORKS  
1850, MINATO, WAKAYAMA, JAPAN

# INSPECTION CERTIFICATE

CERTIFICATE NO. :WYZK4578

PAGE : 1/2 DATE :2013-12-25

CUSTOMER :  
ORDER NO. :  
SHIPPER :SUMITOMO CORPORATION 057 KEN 1100/5 3P17S291401  
COMMODITY :COUPLING FOR SEAMLESS STEEL TUBING WITH VAM TOP HC  
STANDARD :API 5CT GROUP2 GR.L80-TYPE 13CR  
SPECIFICATION :TSP-2356R6, TSP-2692R3  
MILL WORK NO. :WYZK4578 O. D. :7-5/8inch W. T. :33.70lb/ft QUANTITY:20pcs. MASS:340kg  
MATERIAL WORK NO. :WCKK4733

HEAT TREATMENT:QUENCHED & TEMPERED

## CHEMICAL COMPOSITION (%)

		*1	C	Si	Mn	P	S	Cu	Cr	Ni	Ca	Al
						*3	*3		*2		*4	
SPEC. MIN.		R	15	-	25	-	-	-	120	-	-	-
MAX.		R	22	100	100	20	10	10	140	50	-	10
HEAT NO.		L	19	24	52	14	0	2	126	14	8	0
F319053		P	20	25	51	14	0	2	127	13	6	0
*1 R:LADLE & PRODUCT ANALYSIS L:LADLE ANALYSIS P:PRODUCT ANALYSIS *2:X10 *3:X1000 *4:X10000 OTHER:X100												

## TENSILE TEST

		*1 *2	YS *3	TS *3	EL %
SPEC. MIN. MAX.	HEAT- LOT NO.	L B L B	P 80.0 P 95.0	P 95.0 P -	15 -
HEAT NO. F319053	001	L B	P 85.9	P 110.8	27
TYPE OF SPECIMEN:ROUND BAR 0.5in. DIAMETER *1 SAMPLING DIRECTION L:LONGITUDINAL *2 SAMPLING POSITION B:BASE METAL *3 UNIT P:ksi GAUGE LENGTH:2.0in. KIND OF YS:0.5% EXTENSION UNDER LOAD					

## IMPACT TEST (+32.0°F 2mm V-Notch 10X10)

		*1 *2	*3 *4	AVG				*3 *4	AVG			
SPEC. MIN. MAX.	HEAT-	T B	E F	*5	12/18		18	S %	*6	-	-	
	LOT NO.	T B	E F	-/-		-	S %	-		-		
				[1]	[2]	[3]		[1]	[2]	[3]		
HEAT NO. F319053	001	T B	E F	87	96	98	94	S %	50	81	60	64
[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)												
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 F:ft·lbf %:%												

VISUAL & DIMENSIONS: ACCEPTABLE  
MAGNETIC PARTICLE EXAMINATION  
APPLICABLE STANDARD/REFERENCE STANDARD: API 5CT SEC. 9: ACCEPTABLE

SAP NO.  
7000002454  
EN 10204 3.1

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

*Y. Itoh*  
HEAD OF DEPARTMENT  
QUALITY ASSURANCE DEPARTMENT

<An Important Message To Our Customers>  
This certification is intended only for products listed. Modification to or unauthorized use of this certification is strictly prohibited. Offences may be regarded as forgery of documents and be subject to criminal prosecution.  
If you have any questions on this certification, you can contact us by facsimile or e-mail as shown below;  
Fax. No. : +81-3-6867-4926 E-mail:pipe-ipp@jp.nssmc.com



NIPPON STEEL &  
SUMITOMO METAL  
CORPORATION

NIPPON STEEL & SUMITOMO METAL CORPORATION  
WAKAYAMA WORKS  
1850, MINATO, WAKAYAMA, JAPAN

# INSPECTION CERTIFICATE

CERTIFICATE NO. :WYZK4578

PAGE : 2/2 DATE : 2013-12-25

## HARDNESS TEST ( HRC )

		*1*2 *3	*4	*5													*V. A.
SPEC. MIN.		B C	-	-													-
MAX.		B C	-	23.0													-
			AVG.	OUTER WALL				MID WALL				INNER WALL					
	HEAT-		QUAD	IMPRESSION NO.				IMPRESSION NO.				IMPRESSION NO.					
HEAT NO.	LOT NO.		-RANT	(1)	(2)	(3)	AVG.	(1)	(2)	(3)	AVG.	(1)	(2)	(3)	AVG.		
F319053	001	B C T	20.4	A	20.7	20.3	20.2	20.4	20.6	20.8	20.5	20.6	20.4	20.2	20.2	20.3	0.3
		*ALL	20.4														
*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.																	

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

*Y. Itoh*

HEAD OF DEPARTMENT  
QUALITY ASSURANCE DEPARTMENT

NO. 231387W13

<An Important Message To Our Customers>

This certification is intended only for products listed. Modification to or unauthorized use of this certification is strictly prohibited. Offences may be regarded as forgery of documents and be subject to criminal prosecution. If you have any questions on this certification, you can contact us by facsimile or e-mail as shown below;  
Fax. No. : +81-3-6867-4926 E-mail:pipe-ipp@jp.nssmc.com