

## INSPECTION CERTIFICATE

CERTIFICATE NO. :WYYK7170

PAGE : 1/7 DATE : 2023-03-01

CUSTOMER :TAQA ATRUSH B.V.  
ORDER NO. :25346. 0  
SHIPPER :SUMITOMO CORPORATION 057 KEJ-2005/1 3-845-N3-5-3-AW60-01  
COMMODITY :SEAMLESS HOT FINISHED STEEL CASING WITH VAM TOP  
STANDARD :API 5CT GR.L80-TYPE 1 PSL 2(10TH ED., 2018, ADDENDUM, 2021)  
SPECIFICATION :TSP-5132R0  
MILL WORK NO. :WYYK7170 O.D.:9-5/8inch W.T.:47.00lb/ft LENGTH:MIN.34.0feet MAX.37.7feet  
QUANTITY:874pcs. TOTAL LENGTH:32764.24feet MASS:698534kg

HEAT NO. :J3K2036 J3K2038 J3K2215 J3K2216 J3K2217 J3K2219  
PRODUCTS PCS. :47 12 100 320 300 95

HEAT TREATMENT :QUENCHED & TEMPERED

### CHEMICAL COMPOSITION(%)

		*1	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	Al
						*2	*2					*2
SPEC. MIN.		R	-	-	-	-	-	-	-	-	-	-
MAX.		R	43	45	190	30	30	35	-	25	-	-
HEAT NO.												
J3K2036		L	23	30	131	16	2	2	21	2	1	36
		P	23	30	132	15	2	1	22	2	1	35
		P	23	30	133	14	2	1	22	2	1	36
J3K2038		L	24	29	136	15	2	1	21	2	1	36
		P	23	30	135	16	3	1	22	2	1	34
		P	23	30	133	14	2	1	22	2	1	34
J3K2215		L	24	31	136	13	3	2	20	2	2	40
		P	23	31	135	12	3	1	21	2	2	43
		P	23	31	135	12	2	1	21	2	2	43
J3K2216		L	25	31	136	14	3	2	20	2	1	32
		P	24	31	134	12	3	2	21	2	1	37
		P	24	31	134	13	3	2	21	2	1	37
J3K2217		L	24	32	132	15	3	2	20	2	1	32
		P	24	31	132	13	3	2	20	2	1	32
		P	24	32	132	14	3	2	21	2	1	33
J3K2219		L	24	30	130	14	3	2	20	2	1	31
		P	23	31	131	14	2	2	21	2	1	34
		P	23	31	129	13	2	2	21	2	1	33


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

### TENSILE TEST

		*1	*2	YS	TS	EL
				*3	*3	%
SPEC. MIN.	HEAT-	L	B	P 80.0	P 95.0	19
MAX.	LOT NO.	L	B	P 95.0	P -	-
HEAT NO.						
J3K2036	001	L	B	P 89.9	P 106.6	29
	001	L	B	P 86.9	P 104.7	29

THE PRODUCT HAS BEEN MANUFACTURED, SAMPLED, TESTED AND/OR INSPECTED IN ACCORDANCE WITH THIS DOCUMENT(\*1) AND HAS BEEN FOUND TO MEET THE REQUIREMENTS.

\*1) THIS DOCUMENT MEANS "STANDARD" THAT APPLIES TO THIS INSPECTION CERTIFICATE.



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NO. 412116W23

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CERTIFICATE NO. :WYYK7170

PAGE : 2/7 DATE : 2023-03-01

## 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 -	19 -
HEAT NO.					
J3K2038	002	L B	P 89.5	P 105.7	28
	002	L B	P 89.2	P 106.0	28
J3K2215	003	L B	P 90.9	P 107.2	28
	003	L B	P 88.6	P 106.0	29
J3K2216	005	L B	P 88.8	P 106.3	29
	005	L B	P 85.0	P 103.7	29
	006	L B	P 87.2	P 105.9	30
	006	L B	P 87.5	P 106.0	30
	007	L B	P 88.3	P 106.7	29
	007	L B	P 87.9	P 105.9	29
	008	L B	P 87.7	P 105.3	30
	008	L B	P 89.2	P 107.0	30
J3K2217	009	L B	P 87.6	P 104.9	29
	009	L B	P 85.7	P 104.6	28
	010	L B	P 88.0	P 105.7	30
	010	L B	P 85.0	P 103.4	27
	011	L B	P 87.5	P 104.9	30
	011	L B	P 88.2	P 105.6	30
J3K2219	012	L B	P 89.3	P 105.9	28
	012	L B	P 88.0	P 105.3	28


TYPE OF SPECIMEN:STRIP 1-1/2in. WIDTH \*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 10X7.50)

		*1 *2	*3 *4	AVG				*3 *4	AVG			
SPEC. MIN. MAX.	HEAT- LOT NO.	T B	E F	*5	6/9		9	S %	*6	75		--
		T B	E F		-/-		-	S %		--		-
					[1]	[2]	[3]			[1]	[2]	[3]
HEAT NO.												
J3K2036	001	T B	E F	76	74	76	75	S %	100	100	98	99
J3K2038	002	T B	E F	61	66	73	67	S %	98	98	100	99
J3K2215	003	T B	E F	72	69	67	69	S %	98	99	98	98
J3K2216	005	T B	E F	72	69	72	71	S %	100	100	100	100
	006	T B	E F	69	69	74	71	S %	100	100	100	100
	007	T B	E F	65	63	67	65	S %	100	100	100	100
	008	T B	E F	62	66	60	63	S %	100	100	100	100
J3K2217	009	T B	E F	63	66	68	66	S %	100	100	100	100
	010	T B	E F	77	77	77	77	S %	100	100	100	100
	011	T B	E F	62	64	64	63	S %	100	100	100	100
J3K2219	012	T B	E F	83	80	74	79	S %	100	100	100	100

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CERTIFICATE NO. :WYK7170

PAGE : 3/7 DATE : 2023-03-01

[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 F:ft·lbf %:%

VISUAL &amp; DIMENSIONS: ACCEPTABLE

DRIFT TEST: ACCEPTABLE

HYDROSTATIC TEST 6300psiX5sec.: ACCEPTABLE

ULTRASONIC EXAMINATION: ACCEPTABLE

APPLICABLE STANDARD: API 5CT

REFERENCE STANDARD: L2 EXTERNAL &amp; INTERNAL LONGITUDINAL &amp; TRANSVERSE NOTCH LENGTH 2.0in. WIDTH 0.040in.

ULTRASONIC WALL THICKNESS CHECK: ACCEPTABLE

SR16: ACCEPTABLE

REGARDING COUPLING, PROCESSING, PRODUCT CONFORMANCE VERIFICATION AND API MONOGRAM APPLICATION WERE PERFORMED AT  
THE FACILITY OF NIPPON STEEL CORPORATION WAKAYAMA AREA, THAT IS AUTHORIZED API MARKER.

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CERTIFICATE NO. : WYK7170

PAGE : 4/7 DATE : 2023-03-01

## HARDNESS TEST ( HRC )

		*1*2	*3	*4	*5														*V. A.
SPEC. MIN.		B	C	-	-														-
MAX.		B	C	24.0	23.0														-
	HEAT-			AVG.	OUTER WALL				MID WALL				INNER WALL						
	LOT NO.				QUAD	IMPRESSION NO.			IMPRESSION NO.			IMPRESSION NO.							
HEAT NO.					-RANT	(1)	(2)	(3)	AVG.	(1)	(2)	(3)	AVG.	(1)	(2)	(3)	AVG.		
J3K2036	001	B	C	T	18.7	A	17.9	18.2	17.7	17.9	19.1	19.2	19.1	19.1	18.8	19.0	19.3	19.0	1.2
	001	B	C	B	18.5	A	17.8	17.8	18.3	18.0	18.6	18.8	18.9	18.8	19.0	18.7	19.0	18.9	0.9
J3K2038	002	B	C	T	18.8	A	17.8	18.3	18.4	18.2	19.0	19.4	19.3	19.2	19.0	18.8	19.3	19.0	1.0
	002	B	C	B	19.2	A	18.1	18.5	18.5	18.4	19.4	19.4	19.8	19.5	19.5	19.9	19.9	19.8	1.4
J3K2215	003	B	C	T	19.0	A	18.3	18.3	18.5	18.4	19.5	19.6	19.5	19.5	19.1	19.2	19.4	19.2	1.1
	003	B	C	B	19.3	A	18.3	18.9	19.0	18.7	19.4	19.5	19.1	19.3	20.0	19.8	20.1	20.0	1.3
J3K2216	005	B	C	T	18.9	A	18.0	18.0	17.8	17.9	19.5	19.6	19.3	19.5	19.1	19.2	19.4	19.2	1.6
	005	B	C	B	18.4	A	17.8	18.2	17.9	18.0	18.3	18.9	18.7	18.6	18.4	18.5	18.7	18.5	0.6
	006	B	C	T	18.6	A	17.8	18.1	18.0	18.0	19.0	19.1	18.8	19.0	18.9	19.1	18.8	18.9	1.0
	006	B	C	B	18.7	A	17.7	18.3	18.4	18.1	19.1	19.1	19.1	19.1	18.5	18.7	19.0	18.7	1.0
	007	B	C	T	18.7	A	18.1	17.9	18.1	18.0	18.9	19.2	19.2	19.1	18.7	18.9	19.1	18.9	1.1
	007	B	C	B	19.0	A	18.0	18.2	18.8	18.3	18.9	19.4	19.5	19.3	19.1	19.5	19.3	19.3	1.0
	008	B	C	T	19.0	A	18.5	18.7	18.6	18.6	19.6	19.6	19.3	19.5	18.8	18.8	19.1	18.9	0.9
	008	B	C	B	18.7	A	17.8	18.0	18.3	18.0	19.2	18.8	18.8	18.9	19.4	19.2	19.2	19.3	1.3
J3K2217	009	B	C	T	18.5	A	17.8	18.0	17.5	17.8	18.5	18.7	18.4	18.5	18.8	19.2	19.5	19.2	1.4
	009	B	C	B	18.9	A	17.9	18.8	18.8	18.5	18.8	19.3	19.3	19.1	18.7	19.2	19.3	19.1	0.6
	010	B	C	T	18.5	A	18.0	17.9	18.1	18.0	18.8	18.7	18.8	18.8	18.3	19.0	19.0	18.8	0.8
	010	B	C	B	18.6	A	17.8	18.2	18.3	18.1	18.5	18.8	19.0	18.8	18.9	19.0	18.6	18.8	0.7
	011	B	C	T	19.1	A	18.1	18.5	18.5	18.4	19.2	19.6	19.3	19.4	19.3	19.7	19.4	19.5	1.1
	011	B	C	B	18.5	A	17.9	18.0	18.2	18.0	18.6	19.0	18.9	18.8	18.6	18.8	18.7	18.7	0.8
J3K2219	012	B	C	T	18.6	A	18.0	18.2	18.5	18.2	19.2	19.1	18.9	19.1	18.6	18.5	18.7	18.6	0.9
	012	B	C	B	18.7	A	17.8	18.1	18.4	18.1	18.6	18.8	19.1	18.8	18.9	19.3	19.1	19.1	1.0
		*ALL		18.8															
*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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INSPECTION CERTIFICATE

CERTIFICATE NO. :WYK7170

PAGE : 5/7 DATE :2023-03-01

TEMPERING TEMPERATURE

HEAT NO.	PRODUCT PCS. (PCS.)	HEAT LOT/NO.	SETTING TEMPERING TEMPERATURE (°F)
J3K2036	47	001	1202
J3K2038	12	002	1202
J3K2215	100	003	1202
J3K2216	99	005	1202
J3K2216	98	006	1202
J3K2216	99	007	1202
J3K2216	24	008	1202
J3K2217	100	009	1202
J3K2217	100	010	1202
J3K2217	100	011	1202
J3K2219	95	012	1202
TOTAL	874		

REMARKS : TEMPERING TEMPERATURE CONTROL RANGE : SETTING TEMPERATURE +, -18° F

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## INSPECTION CERTIFICATE (COUPLING)

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PAGE : 6 / 7 DATE : 2023-03-01

MATERIAL WORK NO. : WCKK2698

HEAT TREATMENT: QUENCHED & TEMPERED

### CHEMICAL COMPOSITION (%)

		*1	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	Al
						*2	*2					*2
SPEC. MIN.		R	-	-	-	-	-	-	-	-	-	-
MAX.		R	43	45	190	30	30	35	-	25	-	-
HEAT NO.		L	26	28	86	12	2	2	115	2	31	53
J2LC303		P	25	28	85	11	2	1	116	2	32	45
		P	25	28	86	11	1	1	117	2	33	50

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

### TENSILE TEST

		*1 *2	YS	TS	EL
			*3	*3	%
SPEC. MIN.	HEAT-	L B	P 80.0	P 95.0	15
MAX.	LOT NO.	L B	P 95.0	P -	-
HEAT NO.		L B	P 90.9	P 111.0	26
J2LC303	001	L B	P 90.9	P 111.0	26
	001	L B	P 90.9	P 111.0	26

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	11/17		17	S %	*6	75		-
	LOT NO.	T B	E F	-/-				-	S %	-		-
				[1]	[2]	[3]			[1]	[2]	[3]	
HEAT NO. J2LC303	001	T B	E F	146	146	145	146	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 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: ACCEPTABLE

APPLICABLE STANDARD: API 5CT

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

THESE COUPLINGS WERE MANUFACTURED UNDER THE API 5CT COUPLING LICENSE OF NSPM.

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		*1*2	*3	*4	*5														*V. A.
SPEC. MIN. MAX.		B C		-		-													-
		B C		24.0 23.0															-
HEAT NO.	HEAT- LOT NO.			AVG.		OUTER WALL				MID WALL				INNER WALL					
				QUAD		IMPRESSION NO.		IMPRESSION NO.		IMPRESSION NO.		IMPRESSION NO.		IMPRESSION NO.					
				-RANT	(1)	(2)	(3)	AVG.	(1)	(2)	(3)	AVG.	(1)	(2)	(3)	AVG.			
J2LC303	001	B	C	T	19.1	A	18.0	18.5	18.0	18.2	20.4	20.7	20.5	20.5	18.6	18.5	18.4	18.5	2.3
	001	B	C	B	19.6	A	18.3	18.6	18.5	18.5	20.4	20.1	20.3	20.3	19.9	19.9	20.2	20.0	1.8
		*ALL		19.3															
*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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SHIPPER :SUMITOMO CORPORATION 057 KEJ-2005/1 3-845-N3-5-3-AW60-01  
COMMODITY :SEAMLESS HOT FINISHED STEEL CASING WITH VAM TOP  
STANDARD :API 5CT GR. L80-TYPE 1 PSL 2(10TH ED., 2018, ADDENDUM, 2021)  
SPECIFICATION :TSP-5132R0  
MILL WORK NO. :WYYK7170 O.D. :9-5/8inch W.T. :47.00lb/ft LENGTH:MIN. 34.0feet MAX. 37.7feet  
QUANTITY:874pcs. TOTAL LENGTH:32764.24feet MASS:698534kg

HEAT NO. :J3K2036 J3K2038 J3K2215 J3K2216 J3K2217 J3K2219  
PRODUCTS PCS. :47 12 100 320 300 95

HEAT TREATMENT :QUENCHED & TEMPERED

### CHEMICAL COMPOSITION(%)

		*1	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	Al
						*2	*2					*2
SPEC. MIN.		R	-	-	-	-	-	-	-	-	-	-
MAX.		R	43	45	190	30	30	35	-	25	-	-
HEAT NO.												
J3K2036		L	23	30	131	16	2	2	21	2	1	36
		P	23	30	132	15	2	1	22	2	1	35
		P	23	30	133	14	2	1	22	2	1	36
J3K2038		L	24	29	136	15	2	1	21	2	1	36
		P	23	30	135	16	3	1	22	2	1	34
		P	23	30	133	14	2	1	22	2	1	34
J3K2215		L	24	31	136	13	3	2	20	2	2	40
		P	23	31	135	12	3	1	21	2	2	43
		P	23	31	135	12	2	1	21	2	2	43
J3K2216		L	25	31	136	14	3	2	20	2	1	32
		P	24	31	134	12	3	2	21	2	1	37
		P	24	31	134	13	3	2	21	2	1	37
J3K2217		L	24	32	132	15	3	2	20	2	1	32
		P	24	31	132	13	3	2	20	2	1	32
		P	24	32	132	14	3	2	21	2	1	33
J3K2219		L	24	30	130	14	3	2	20	2	1	31
		P	23	31	131	14	2	2	21	2	1	34
		P	23	31	129	13	2	2	21	2	1	33

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

### TENSILE TEST

		*1	*2	YS	TS	EL
				*3	*3	%
SPEC. MIN.	HEAT-	L	B	P 80.0	P 95.0	19
MAX.	LOT NO.	L	B	P 95.0	P -	-
HEAT NO.						
J3K2036	001	L	B	P 89.9	P 106.6	29
	001	L	B	P 86.9	P 104.7	29

THE PRODUCT HAS BEEN MANUFACTURED, SAMPLED, TESTED AND/OR INSPECTED IN ACCORDANCE WITH THIS DOCUMENT(\*1) AND HAS BEEN FOUND TO MEET THE REQUIREMENTS.

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NO. 412116W23



**INSPECTION CERTIFICATE**

CERTIFICATE NO. : WYYK7170

PAGE : 2/7 DATE : 2023-03-01

**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 -	19 -
HEAT NO.					
J3K2038	002	L B	P 89.5	P 105.7	28
	002	L B	P 89.2	P 106.0	28
J3K2215	003	L B	P 90.9	P 107.2	28
	003	L B	P 88.6	P 106.0	29
J3K2216	005	L B	P 88.8	P 106.3	29
	005	L B	P 85.0	P 103.7	29
	006	L B	P 87.2	P 105.9	30
	006	L B	P 87.5	P 106.0	30
	007	L B	P 88.3	P 106.7	29
	007	L B	P 87.9	P 105.9	29
	008	L B	P 87.7	P 105.3	30
	008	L B	P 89.2	P 107.0	30
J3K2217	009	L B	P 87.6	P 104.9	29
	009	L B	P 85.7	P 104.6	28
	010	L B	P 88.0	P 105.7	30
	010	L B	P 85.0	P 103.4	27
	011	L B	P 87.5	P 104.9	30
	011	L B	P 88.2	P 105.6	30
J3K2219	012	L B	P 89.3	P 105.9	28
	012	L B	P 88.0	P 105.3	28

TYPE OF SPECIMEN: STRIP 1-1/2in. WIDTH \*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 10X7.50)**

		*1 *2	*3 *4	AVG				*3 *4	AVG			
SPEC. MIN. MAX.	HEAT- LOT NO.	T B	E F	*5	6/9		9	S %	*6	75		-
		T B	E F	-/-		-	S %	-		-		
				[1]	[2]	[3]		[1]	[2]	[3]		
HEAT NO.												
J3K2036	001	T B	E F	76	74	76	75	S %	100	100	98	99
J3K2038	002	T B	E F	61	66	73	67	S %	98	98	100	99
J3K2215	003	T B	E F	72	69	67	69	S %	98	99	98	98
J3K2216	005	T B	E F	72	69	72	71	S %	100	100	100	100
	006	T B	E F	69	69	74	71	S %	100	100	100	100
	007	T B	E F	65	63	67	65	S %	100	100	100	100
	008	T B	E F	62	66	60	63	S %	100	100	100	100
J3K2217	009	T B	E F	63	66	68	66	S %	100	100	100	100
	010	T B	E F	77	77	77	77	S %	100	100	100	100
	011	T B	E F	62	64	64	63	S %	100	100	100	100
J3K2219	012	T B	E F	83	80	74	79	S %	100	100	100	100

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INSPECTION CERTIFICATE

CERTIFICATE NO. :WYK7170

PAGE : 3/7 DATE : 2023-03-01

[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 F:ft·lbf %:%

VISUAL &amp; DIMENSIONS: ACCEPTABLE

DRIFT TEST: ACCEPTABLE

HYDROSTATIC TEST 6300psiX5sec.: ACCEPTABLE

ULTRASONIC EXAMINATION: ACCEPTABLE

APPLICABLE STANDARD: API 5CT

REFERENCE STANDARD: L2 EXTERNAL &amp; INTERNAL LONGITUDINAL &amp; TRANSVERSE NOTCH LENGTH 2.0in. WIDTH 0.040in.

ULTRASONIC WALL THICKNESS CHECK: ACCEPTABLE

SR16: ACCEPTABLE

REGARDING COUPLING, PROCESSING, PRODUCT CONFORMANCE VERIFICATION AND API MONOGRAM APPLICATION WERE PERFORMED AT  
THE FACILITY OF NIPPON STEEL CORPORATION WAKAYAMA AREA, THAT IS AUTHORIZED API MARKER.

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## INSPECTION CERTIFICATE

CERTIFICATE NO. :WYK7170

PAGE : 4/7 DATE : 2023-03-01

## HARDNESS TEST ( HRC )

		*1*2	*3	*4	*5													*V. A.	
SPEC. MIN.		B	C	-	-													-	
MAX.		B	C	24.0	23.0													-	
	HEAT- LOT NO.			AVG.	OUTER WALL IMPRESSION NO.				MID WALL IMPRESSION NO.				INNER WALL IMPRESSION NO.						
HEAT NO.					QUAD	(1)	(2)	(3)	AVG.	(1)	(2)	(3)	AVG.	(1)	(2)	(3)	AVG.		
			-RANT																
J3K2036	001	B	C	T	18.7	A	17.9	18.2	17.7	17.9	19.1	19.2	19.1	19.1	18.8	19.0	19.3	19.0	1.2
	001	B	C	B	18.5	A	17.8	17.8	18.3	18.0	18.6	18.8	18.9	18.8	19.0	18.7	19.0	18.9	0.9
J3K2038	002	B	C	T	18.8	A	17.8	18.3	18.4	18.2	19.0	19.4	19.3	19.2	19.0	18.8	19.3	19.0	1.0
	002	B	C	B	19.2	A	18.1	18.5	18.5	18.4	19.4	19.4	19.8	19.5	19.5	19.9	19.9	19.8	1.4
J3K2215	003	B	C	T	19.0	A	18.3	18.3	18.5	18.4	19.5	19.6	19.5	19.5	19.1	19.2	19.4	19.2	1.1
	003	B	C	B	19.3	A	18.3	18.9	19.0	18.7	19.4	19.5	19.1	19.3	20.0	19.8	20.1	20.0	1.3
J3K2216	005	B	C	T	18.9	A	18.0	18.0	17.8	17.9	19.5	19.6	19.3	19.5	19.1	19.2	19.4	19.2	1.6
	005	B	C	B	18.4	A	17.8	18.2	17.9	18.0	18.3	18.9	18.7	18.6	18.4	18.5	18.7	18.5	0.6
	006	B	C	T	18.6	A	17.8	18.1	18.0	18.0	19.0	19.1	18.8	19.0	18.9	19.1	18.8	18.9	1.0
	006	B	C	B	18.7	A	17.7	18.3	18.4	18.1	19.1	19.1	19.1	19.1	18.5	18.7	19.0	18.7	1.0
	007	B	C	T	18.7	A	18.1	17.9	18.1	18.0	18.9	19.2	19.2	19.1	18.7	18.9	19.1	18.9	1.1
	007	B	C	B	19.0	A	18.0	18.2	18.8	18.3	18.9	19.4	19.5	19.3	19.1	19.5	19.3	19.3	1.0
	008	B	C	T	19.0	A	18.5	18.7	18.6	18.6	19.6	19.6	19.3	19.5	18.8	18.8	19.1	18.9	0.9
	008	B	C	B	18.7	A	17.8	18.0	18.3	18.0	19.2	18.8	18.8	18.9	19.4	19.2	19.2	19.3	1.3
J3K2217	009	B	C	T	18.5	A	17.8	18.0	17.5	17.8	18.5	18.7	18.4	18.5	18.8	19.2	19.5	19.2	1.4
	009	B	C	B	18.9	A	17.9	18.8	18.8	18.5	18.8	19.3	19.3	19.1	18.7	19.2	19.3	19.1	0.6
	010	B	C	T	18.5	A	18.0	17.9	18.1	18.0	18.8	18.7	18.8	18.8	18.3	19.0	19.0	18.8	0.8
	010	B	C	B	18.6	A	17.8	18.2	18.3	18.1	18.5	18.8	19.0	18.8	18.9	19.0	18.6	18.8	0.7
	011	B	C	T	19.1	A	18.1	18.5	18.5	18.4	19.2	19.6	19.3	19.4	19.3	19.7	19.4	19.5	1.1
	011	B	C	B	18.5	A	17.9	18.0	18.2	18.0	18.6	19.0	18.9	18.8	18.6	18.8	18.7	18.7	0.8
J3K2219	012	B	C	T	18.6	A	18.0	18.2	18.5	18.2	19.2	19.1	18.9	19.1	18.6	18.5	18.7	18.6	0.9
	012	B	C	B	18.7	A	17.8	18.1	18.4	18.1	18.6	18.8	19.1	18.8	18.9	19.3	19.1	19.1	1.0
		*ALL			18.8														
*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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INSPECTION CERTIFICATE

CERTIFICATE NO. :WYYK7170

PAGE : 5/7 DATE :2023-03-01

## TEMPERING TEMPERATURE

HEAT NO.	PRODUCT PCS. (PCS.)	HEAT LOT/NO.	SETTING TEMPERING TEMPERATURE (° F)
J3K2036	47	001	1202
J3K2038	12	002	1202
J3K2215	100	003	1202
J3K2216	99	005	1202
J3K2216	98	006	1202
J3K2216	99	007	1202
J3K2216	24	008	1202
J3K2217	100	009	1202
J3K2217	100	010	1202
J3K2217	100	011	1202
J3K2219	95	012	1202
TOTAL	874		

REMARKS : TEMPERING TEMPERATURE CONTROL RANGE : SETTING TEMPERATURE +, -18° F

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**INSPECTION CERTIFICATE(COUPLING)**

CERTIFICATE NO. :WYYK7170

PAGE : 6/7 DATE :2023-03-01

MATERIAL WORK NO. :WCKK2698

HEAT TREATMENT:QUENCHED &amp; TEMPERED

**CHEMICAL COMPOSITION(%)**

		*1	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	Al
						*2	*2					*2
SPEC. MIN.		R	-	-	-	-	-	-	-	-	-	-
MAX.		R	43	45	190	30	30	35	-	25	-	-
HEAT NO.		L	26	28	86	12	2	2	115	2	31	53
J2LC303		P	25	28	85	11	2	1	116	2	32	45
		P	25	28	86	11	1	1	117	2	33	50

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

**TENSILE TEST**

		*1 *2	YS	TS	EL
			*3	*3	%
SPEC. MIN.	HEAT-	L B	P 80.0	P 95.0	15
MAX.	LOT NO.	L B	P 95.0	P -	-
HEAT NO.		L B	P 90.9	P 111.0	26
J2LC303	001	L B	P 90.9	P 111.0	26
	001	L B	P 90.9	P 111.0	26

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.	HEAT-	T B	E F *5	11/17	S %	*6 75
MAX.	LOT NO.	T B	E F	-/-	S %	-
			[1] [2] [3]		[1] [2] [3]	
HEAT NO.		T B	E F	146 146 145 146	S %	100 100 100 100
J2LC303	001	T B	E F	146 146 145 146	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 T:TRANSVERSE \*2 SAMPLING POSITION B:BASE METAL \*3 E:ABSORBED ENERGY S:SHEAR AREA

\*4 UNIT F:ft·lbf %:%

VISUAL &amp; DIMENSIONS: ACCEPTABLE

MAGNETIC PARTICLE EXAMINATION: ACCEPTABLE

APPLICABLE STANDARD: API 5CT

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

THESE COUPLINGS WERE MANUFACTURED UNDER THE API 5CT COUPLING LICENSE OF NSPM.

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NO. 412116W23

INSPECTION CERTIFICATE (COUPLING)

CERTIFICATE NO. : WYYK7170

PAGE : 7 / 7 DATE : 2023-03-01

HARDNESS TEST ( HRC )

		*1*2	*3	*4		*5													*V. A.	
SPEC. MIN. MAX.		B C		-		-													-	
		B C		24.0		23.0													-	
HEAT NO.	HEAT- LOT NO.			AVG.				OUTER WALL IMPRESSION NO.				MID WALL IMPRESSION NO.				INNER WALL IMPRESSION NO.				
				QUAD																
				-RANT	(1)	(2)	(3)	AVG.	(1)	(2)	(3)	AVG.	(1)	(2)	(3)	AVG.				
J2LC303	001	B C	T	19.1	A	18.0	18.5	18.0	18.2	20.4	20.7	20.5	20.5	18.6	18.5	18.4	18.5	2.3		
	001	B C	B	19.6	A	18.3	18.6	18.5	18.5	20.4	20.1	20.3	20.3	19.9	19.9	20.2	20.0	1.8		
		*ALL		19.3																
*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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NO. 412116W23

## INSPECTION CERTIFICATE

CERTIFICATE NO. :WYYK7170

PAGE : 1/7 DATE : 2023-03-01

CUSTOMER :TAQA ATRUSH B. V.  
ORDER NO. :25346. 0  
SHIPPER :SUMITOMO CORPORATION 057 KEJ-2005/1 3-845-N3-5-3-AW60-01  
COMMODITY :SEAMLESS HOT FINISHED STEEL CASING WITH VAM TOP  
STANDARD :API 5CT GR. L80-TYPE 1 PSL 2(10TH ED., 2018, ADDENDUM, 2021)  
SPECIFICATION :TSP-5132R0  
MILL WORK NO. :WYYK7170 O.D.:9-5/8inch W.T.:47.00lb/ft LENGTH:MIN.34.0feet MAX.37.7feet  
QUANTITY:874pcs. TOTAL LENGTH:32764.24feet MASS:698534kg

HEAT NO. :J3K2036 J3K2038 J3K2215 J3K2216 J3K2217 J3K2219  
PRODUCTS PCS. :47 12 100 320 300 95

HEAT TREATMENT :QUENCHED & TEMPERED

### CHEMICAL COMPOSITION(%)

		*1	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	Al
						*2	*2					*2
SPEC. MIN.		R	-	-	-	-	-	-	-	-	-	-
MAX.		R	43	45	190	30	30	35	-	25	-	-
HEAT NO.												
J3K2036		L	23	30	131	16	2	2	21	2	1	36
		P	23	30	132	15	2	1	22	2	1	35
		P	23	30	133	14	2	1	22	2	1	36
J3K2038		L	24	29	136	15	2	1	21	2	1	36
		P	23	30	135	16	3	1	22	2	1	34
		P	23	30	133	14	2	1	22	2	1	34
J3K2215		L	24	31	136	13	3	2	20	2	2	40
		P	23	31	135	12	3	1	21	2	2	43
		P	23	31	135	12	2	1	21	2	2	43
J3K2216		L	25	31	136	14	3	2	20	2	1	32
		P	24	31	134	12	3	2	21	2	1	37
		P	24	31	134	13	3	2	21	2	1	37
J3K2217		L	24	32	132	15	3	2	20	2	1	32
		P	24	31	132	13	3	2	20	2	1	32
		P	24	32	132	14	3	2	21	2	1	33
J3K2219		L	24	30	130	14	3	2	20	2	1	31
		P	23	31	131	14	2	2	21	2	1	34
		P	23	31	129	13	2	2	21	2	1	33

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

### TENSILE TEST

		*1	*2	YS	TS	EL
				*3	*3	%
SPEC. MIN.	HEAT-	L	B	P 80.0	P 95.0	19
MAX.	LOT NO.	L	B	P 95.0	P -	-
HEAT NO.						
J3K2036	001	L	B	P 89.9	P 106.6	29
	001	L	B	P 86.9	P 104.7	29

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**INSPECTION CERTIFICATE**

CERTIFICATE NO. : WYK7170

PAGE : 2/7 DATE : 2023-03-01

**TENSILE TEST**

		*1 *2	YS *3	TS *3	EL %
SPEC. MIN.	HEAT-	L B	P 80.0	P 95.0	19
MAX.	LOT NO.	L B	P 95.0	P -	-
HEAT NO.					
J3K2038	002	L B	P 89.5	P 105.7	28
	002	L B	P 89.2	P 106.0	28
J3K2215	003	L B	P 90.9	P 107.2	28
	003	L B	P 88.6	P 106.0	29
J3K2216	005	L B	P 88.8	P 106.3	29
	005	L B	P 85.0	P 103.7	29
	006	L B	P 87.2	P 105.9	30
	006	L B	P 87.5	P 106.0	30
	007	L B	P 88.3	P 106.7	29
	007	L B	P 87.9	P 105.9	29
	008	L B	P 87.7	P 105.3	30
	008	L B	P 89.2	P 107.0	30
J3K2217	009	L B	P 87.6	P 104.9	29
	009	L B	P 85.7	P 104.6	28
	010	L B	P 88.0	P 105.7	30
	010	L B	P 85.0	P 103.4	27
	011	L B	P 87.5	P 104.9	30
	011	L B	P 88.2	P 105.6	30
J3K2219	012	L B	P 89.3	P 105.9	28
	012	L B	P 88.0	P 105.3	28

TYPE OF SPECIMEN: STRIP 1-1/2in. WIDTH \*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 10X7.50)**

		*1 *2	*3 *4	AVG	*3 *4	AVG
SPEC. MIN.	HEAT-	T B	E F *5 6/9	9	S % *6 75	-
MAX.	LOT NO.	T B	E F -/-	-	S % -	-
			[1] [2] [3]		[1] [2] [3]	
HEAT NO.						
J3K2036	001	T B	E F 76 74 76	75	S % 100 100 98	99
J3K2038	002	T B	E F 61 66 73	67	S % 98 98 100	99
J3K2215	003	T B	E F 72 69 67	69	S % 98 99 98	98
J3K2216	005	T B	E F 72 69 72	71	S % 100 100 100	100
	006	T B	E F 69 69 74	71	S % 100 100 100	100
	007	T B	E F 65 63 67	65	S % 100 100 100	100
	008	T B	E F 62 66 60	63	S % 100 100 100	100
J3K2217	009	T B	E F 63 66 68	66	S % 100 100 100	100
	010	T B	E F 77 77 77	77	S % 100 100 100	100
	011	T B	E F 62 64 64	63	S % 100 100 100	100
J3K2219	012	T B	E F 83 80 74	79	S % 100 100 100	100

THE PRODUCT HAS BEEN MANUFACTURED, SAMPLED, TESTED AND/OR INSPECTED IN ACCORDANCE WITH THIS DOCUMENT (\*1)  
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NO. 412116W23



INSPECTION CERTIFICATE

CERTIFICATE NO. :WYYK7170

PAGE : 3/7 DATE : 2023-03-01

[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 F:ft·lbf %:%

VISUAL &amp; DIMENSIONS: ACCEPTABLE

DRIFT TEST: ACCEPTABLE

HYDROSTATIC TEST 6300psiX5sec.: ACCEPTABLE

ULTRASONIC EXAMINATION: ACCEPTABLE

APPLICABLE STANDARD: API 5CT

REFERENCE STANDARD: L2 EXTERNAL &amp; INTERNAL LONGITUDINAL &amp; TRANSVERSE NOTCH LENGTH 2.0in. WIDTH 0.040in.

ULTRASONIC WALL THICKNESS CHECK: ACCEPTABLE

SR16: ACCEPTABLE

REGARDING COUPLING, PROCESSING, PRODUCT CONFORMANCE VERIFICATION AND API MONOGRAM APPLICATION WERE PERFORMED AT  
THE FACILITY OF NIPPON STEEL CORPORATION WAKAYAMA AREA, THAT IS AUTHORIZED API MARKER.

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NO. 412116W23

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CERTIFICATE NO. :WYK7170

PAGE : 4/7 DATE : 2023-03-01

### HARDNESS TEST ( HRC )

		*1*2	*3	*4	*5														*V. A.
SPEC. MIN. MAX.		B C		-	-														-
		B C		24.0	23.0														-
	HEAT- LOT NO.			AVG.	OUTER WALL IMPRESSION NO.				MID WALL IMPRESSION NO.				INNER WALL IMPRESSION NO.						
HEAT NO.					QUAD														
					-RANT	(1)	(2)	(3)	AVG.	(1)	(2)	(3)	AVG.	(1)	(2)	(3)	AVG.		
J3K2036	001	B C	T	18.7	A	17.9	18.2	17.7	17.9	19.1	19.2	19.1	19.1	18.8	19.0	19.3	19.0	1.2	
	001	B C	B	18.5	A	17.8	17.8	18.3	18.0	18.6	18.8	18.9	18.8	19.0	18.7	19.0	18.9	0.9	
J3K2038	002	B C	T	18.8	A	17.8	18.3	18.4	18.2	19.0	19.4	19.3	19.2	19.0	18.8	19.3	19.0	1.0	
	002	B C	B	19.2	A	18.1	18.5	18.5	18.4	19.4	19.4	19.8	19.5	19.5	19.9	19.9	19.8	1.4	
J3K2215	003	B C	T	19.0	A	18.3	18.3	18.5	18.4	19.5	19.6	19.5	19.5	19.1	19.2	19.4	19.2	1.1	
	003	B C	B	19.3	A	18.3	18.9	19.0	18.7	19.4	19.5	19.1	19.3	20.0	19.8	20.1	20.0	1.3	
J3K2216	005	B C	T	18.9	A	18.0	18.0	17.8	17.9	19.5	19.6	19.3	19.5	19.1	19.2	19.4	19.2	1.6	
	005	B C	B	18.4	A	17.8	18.2	17.9	18.0	18.3	18.9	18.7	18.6	18.4	18.5	18.7	18.5	0.6	
	006	B C	T	18.6	A	17.8	18.1	18.0	18.0	19.0	19.1	18.8	19.0	18.9	19.1	18.8	18.9	1.0	
	006	B C	B	18.7	A	17.7	18.3	18.4	18.1	19.1	19.1	19.1	19.1	18.5	18.7	19.0	18.7	1.0	
	007	B C	T	18.7	A	18.1	17.9	18.1	18.0	18.9	19.2	19.2	19.1	18.7	18.9	19.1	18.9	1.1	
	007	B C	B	19.0	A	18.0	18.2	18.8	18.3	18.9	19.4	19.5	19.3	19.1	19.5	19.3	19.3	1.0	
	008	B C	T	19.0	A	18.5	18.7	18.6	18.6	19.6	19.6	19.3	19.5	18.8	18.8	19.1	18.9	0.9	
	008	B C	B	18.7	A	17.8	18.0	18.3	18.0	19.2	18.8	18.8	18.9	19.4	19.2	19.2	19.3	1.3	
J3K2217	009	B C	T	18.5	A	17.8	18.0	17.5	17.8	18.5	18.7	18.4	18.5	18.8	19.2	19.5	19.2	1.4	
	009	B C	B	18.9	A	17.9	18.8	18.8	18.5	18.8	19.3	19.3	19.1	18.7	19.2	19.3	19.1	0.6	
	010	B C	T	18.5	A	18.0	17.9	18.1	18.0	18.8	18.7	18.8	18.8	18.3	19.0	19.0	18.8	0.8	
	010	B C	B	18.6	A	17.8	18.2	18.3	18.1	18.5	18.8	19.0	18.8	18.9	19.0	18.6	18.8	0.7	
	011	B C	T	19.1	A	18.1	18.5	18.5	18.4	19.2	19.6	19.3	19.4	19.3	19.7	19.4	19.5	1.1	
	011	B C	B	18.5	A	17.9	18.0	18.2	18.0	18.6	19.0	18.9	18.8	18.6	18.8	18.7	18.7	0.8	
J3K2219	012	B C	T	18.6	A	18.0	18.2	18.5	18.2	19.2	19.1	18.9	19.1	18.6	18.5	18.7	18.6	0.9	
	012	B C	B	18.7	A	17.8	18.1	18.4	18.1	18.6	18.8	19.1	18.8	18.9	19.3	19.1	19.1	1.0	
		*ALL		18.8															
*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.																			

THE PRODUCT HAS BEEN MANUFACTURED, SAMPLED, TESTED AND/OR INSPECTED IN ACCORDANCE WITH THIS DOCUMENT(\*1)  
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NO. 412116W23

INSPECTION CERTIFICATE

CERTIFICATE NO. :WYK7170

PAGE : 5/7 DATE :2023-03-01

TEMPERING TEMPERATURE

HEAT NO.	PRODUCT PCS. (PCS.)	HEAT LOT/NO.	SETTING TEMPERING TEMPERATURE (° F)
J3K2036	47	001	1202
J3K2038	12	002	1202
J3K2215	100	003	1202
J3K2216	99	005	1202
J3K2216	98	006	1202
J3K2216	99	007	1202
J3K2216	24	008	1202
J3K2217	100	009	1202
J3K2217	100	010	1202
J3K2217	100	011	1202
J3K2219	95	012	1202
TOTAL	874		

REMARKS : TEMPERING TEMPERATURE CONTROL RANGE : SETTING TEMPERATURE +, -18° F

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NO. 412116W23

## INSPECTION CERTIFICATE (COUPLING)

CERTIFICATE NO. : WYK7170

PAGE : 6/7 DATE : 2023-03-01

MATERIAL WORK NO. : WCKK2698

HEAT TREATMENT: QUENCHED & TEMPERED

### CHEMICAL COMPOSITION (%)

		*1	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	Al
						*2	*2					*2
SPEC. MIN.		R	-	-	-	-	-	-	-	-	-	-
MAX.		R	43	45	190	30	30	35	-	25	-	-
HEAT NO.		L	26	28	86	12	2	2	115	2	31	53
J2LC303		P	25	28	85	11	2	1	116	2	32	45
		P	25	28	86	11	1	1	117	2	33	50

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

### TENSILE TEST

		*1 *2	YS	TS	EL
			*3	*3	%
SPEC. MIN.	HEAT-	L B	P 80.0	P 95.0	15
MAX.	LOT NO.	L B	P 95.0	P -	-
HEAT NO.		L B	P 90.9	P 111.0	26
J2LC303	001	L B	P 90.9	P 111.0	26
	001	L B	P 90.9	P 111.0	26

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.	HEAT-	T B	E F *5	11/17	S %	*6 75
MAX.	LOT NO.	T B	E F	-/-	S %	-
			[1] [2] [3]		[1] [2] [3]	
HEAT NO.		T B	E F	146 146 145 146	S %	100 100 100 100
J2LC303	001	T B	E F	146 146 145 146	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 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: ACCEPTABLE

APPLICABLE STANDARD: API 5CT

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

THESE COUPLINGS WERE MANUFACTURED UNDER THE API 5CT COUPLING LICENSE OF NSPM.

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NO. 412116W23

## INSPECTION CERTIFICATE (COUPLING)

CERTIFICATE NO. : WYK7170

PAGE : 7/7 DATE : 2023-03-01

### HARDNESS TEST ( HRC )

		*1*2 *3	*4 *5												*V. A.				
SPEC. MIN.		B C	- -																
MAX.		B C	24.0 23.0																
	HEAT-		AVG.				OUTER WALL				MID WALL				INNER WALL				
	LOT NO.		QUAD				IMPRESSION NO.				IMPRESSION NO.				IMPRESSION NO.				
HEAT NO.			-RANT	(1)	(2)	(3)	AVG.	(1)	(2)	(3)	AVG.	(1)	(2)	(3)	AVG.	(1)	(2)	(3)	AVG.
J2LC303	001	B C T	19.1	A	18.0	18.5	18.0	18.2	20.4	20.7	20.5	20.5	18.6	18.5	18.4	18.5	2.3		
	001	B C B	19.6	A	18.3	18.6	18.5	18.5	20.4	20.1	20.3	20.3	19.9	19.9	20.2	20.0	1.8		
		*ALL	19.3																
*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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NO. 412116W23

## INSPECTION CERTIFICATE

CERTIFICATE NO. :WYYK7170

PAGE : 1/7 DATE : 2023-03-01

CUSTOMER :TAQA ATRUSH B. V.  
ORDER NO. :25346. 0  
SHIPPER :SUMITOMO CORPORATION 057 KEJ-2005/1 3-845-N3-5-3-AW60-01  
COMMODITY :SEAMLESS HOT FINISHED STEEL CASING WITH VAM TOP  
STANDARD :API 5CT GR.L80-TYPE 1 PSL 2(10TH ED., 2018, ADDENDUM, 2021)  
SPECIFICATION :TSP-5132R0  
MILL WORK NO. :WYYK7170 O.D.:9-5/8inch W.T.:47.00lb/ft LENGTH:MIN.34.0feet MAX.37.7feet  
QUANTITY:874pcs. TOTAL LENGTH:32764.24feet MASS:698534kg

HEAT NO. :J3K2036 J3K2038 J3K2215 J3K2216 J3K2217 J3K2219  
PRODUCTS PCS. :47 12 100 320 300 95

HEAT TREATMENT :QUENCHED & TEMPERED

### CHEMICAL COMPOSITION(%)

		*1	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	Al
						*2	*2					*2
SPEC. MIN.		R	-	-	-	-	-	-	-	-	-	-
MAX.		R	43	45	190	30	30	35	-	25	-	-
HEAT NO.												
J3K2036		L	23	30	131	16	2	2	21	2	1	36
		P	23	30	132	15	2	1	22	2	1	35
		P	23	30	133	14	2	1	22	2	1	36
J3K2038		L	24	29	136	15	2	1	21	2	1	36
		P	23	30	135	16	3	1	22	2	1	34
		P	23	30	133	14	2	1	22	2	1	34
J3K2215		L	24	31	136	13	3	2	20	2	2	40
		P	23	31	135	12	3	1	21	2	2	43
		P	23	31	135	12	2	1	21	2	2	43
J3K2216		L	25	31	136	14	3	2	20	2	1	32
		P	24	31	134	12	3	2	21	2	1	37
		P	24	31	134	13	3	2	21	2	1	37
J3K2217		L	24	32	132	15	3	2	20	2	1	32
		P	24	31	132	13	3	2	20	2	1	32
		P	24	32	132	14	3	2	21	2	1	33
J3K2219		L	24	30	130	14	3	2	20	2	1	31
		P	23	31	131	14	2	2	21	2	1	34
		P	23	31	129	13	2	2	21	2	1	33

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

### TENSILE TEST

		*1	*2	YS	TS	EL
				*3	*3	%
SPEC. MIN.	HEAT-	L	B	P 80.0	P 95.0	19
MAX.	LOT NO.	L	B	P 95.0	P -	-
HEAT NO.						
J3K2036	001	L	B	P 89.9	P 106.6	29
	001	L	B	P 86.9	P 104.7	29

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## INSPECTION CERTIFICATE

CERTIFICATE NO. :WYK7170

PAGE : 2/7 DATE : 2023-03-01

### TENSILE TEST

		*1 *2	YS *3	TS *3	EL %
SPEC. MIN.	HEAT-	L B	P 80.0	P 95.0	19
MAX.	LOT NO.	L B	P 95.0	P -	-
HEAT NO.					
J3K2038	002	L B	P 89.5	P 105.7	28
	002	L B	P 89.2	P 106.0	28
J3K2215	003	L B	P 90.9	P 107.2	28
	003	L B	P 88.6	P 106.0	29
J3K2216	005	L B	P 88.8	P 106.3	29
	005	L B	P 85.0	P 103.7	29
	006	L B	P 87.2	P 105.9	30
	006	L B	P 87.5	P 106.0	30
	007	L B	P 88.3	P 106.7	29
	007	L B	P 87.9	P 105.9	29
	008	L B	P 87.7	P 105.3	30
	008	L B	P 89.2	P 107.0	30
J3K2217	009	L B	P 87.6	P 104.9	29
	009	L B	P 85.7	P 104.6	28
	010	L B	P 88.0	P 105.7	30
	010	L B	P 85.0	P 103.4	27
	011	L B	P 87.5	P 104.9	30
	011	L B	P 88.2	P 105.6	30
J3K2219	012	L B	P 89.3	P 105.9	28
	012	L B	P 88.0	P 105.3	28

TYPE OF SPECIMEN:STRIP 1-1/2in. WIDTH \*1 SAMPLING DIRECTION L:LONGITUDINAL \*2 SAMPLING POSITION B:BASE METAL  
\*3 UNIT P:ksi GAUGE LENGTH:2.0in. KIND OF VS:0.5% EXTENSION UNDER LOAD

### IMPACT TEST(+32.0°F 2mm V-Notch 10X7.50)

		*1 *2	*3 *4	AVG			*3 *4	AVG		
SPEC. MIN.	HEAT-	T B	E F	*5	6/9	9	S %	*6	75	-
MAX.	LOT NO.	T B	E F		-/-	-	S %		-	-
				[1]	[2]	[3]		[1]	[2]	[3]
HEAT NO.										
J3K2036	001	T B	E F	76	74	76	75	S %	100	100
J3K2038	002	T B	E F	61	66	73	67	S %	98	98
J3K2215	003	T B	E F	72	69	67	69	S %	98	99
J3K2216	005	T B	E F	72	69	72	71	S %	100	100
	006	T B	E F	69	69	74	71	S %	100	100
	007	T B	E F	65	63	67	65	S %	100	100
	008	T B	E F	62	66	60	63	S %	100	100
J3K2217	009	T B	E F	63	66	68	66	S %	100	100
	010	T B	E F	77	77	77	77	S %	100	100
	011	T B	E F	62	64	64	63	S %	100	100
J3K2219	012	T B	E F	83	80	74	79	S %	100	100

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NO. 412116W23

## INSPECTION CERTIFICATE

CERTIFICATE NO. : WYK7170

PAGE : 3/7 DATE : 2023-03-01

[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 F: ft·lbf %: %

VISUAL &amp; DIMENSIONS: ACCEPTABLE

DRIFT TEST: ACCEPTABLE

HYDROSTATIC TEST 6300psiX5sec.: ACCEPTABLE

ULTRASONIC EXAMINATION: ACCEPTABLE

APPLICABLE STANDARD: API 5CT

REFERENCE STANDARD: L2 EXTERNAL &amp; INTERNAL LONGITUDINAL &amp; TRANSVERSE NOTCH LENGTH 2.0in. WIDTH 0.040in.

ULTRASONIC WALL THICKNESS CHECK: ACCEPTABLE

SR16: ACCEPTABLE

REGARDING COUPLING, PROCESSING, PRODUCT CONFORMANCE VERIFICATION AND API MONOGRAM APPLICATION WERE PERFORMED AT  
THE FACILITY OF NIPPON STEEL CORPORATION WAKAYAMA AREA, THAT IS AUTHORIZED API MARKER.

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CERTIFICATE NO. :WYK7170

PAGE : 4/7 DATE : 2023-03-01

## HARDNESS TEST ( HRC )

		*1*2	*3	*4	*5														*V. A.
SPEC. MIN.		B	C	-	-														-
MAX.		B	C	24.0	23.0														-
				AVG.	OUTER WALL				MID WALL				INNER WALL						
	HEAT- LOT NO.				QUAD	IMPRESSION NO.			IMPRESSION NO.			IMPRESSION NO.							
HEAT NO.					-RANT	(1)	(2)	(3)	AVG.	(1)	(2)	(3)	AVG.	(1)	(2)	(3)	AVG.		
J3K2036	001	B	C	T	18.7	A	17.9	18.2	17.7	17.9	19.1	19.2	19.1	19.1	18.8	19.0	19.3	19.0	1.2
	001	B	C	B	18.5	A	17.8	17.8	18.3	18.0	18.6	18.8	18.9	18.8	19.0	18.7	19.0	18.9	0.9
J3K2038	002	B	C	T	18.8	A	17.8	18.3	18.4	18.2	19.0	19.4	19.3	19.2	19.0	18.8	19.3	19.0	1.0
	002	B	C	B	19.2	A	18.1	18.5	18.5	18.4	19.4	19.4	19.8	19.5	19.5	19.9	19.9	19.8	1.4
J3K2215	003	B	C	T	19.0	A	18.3	18.3	18.5	18.4	19.5	19.6	19.5	19.5	19.1	19.2	19.4	19.2	1.1
	003	B	C	B	19.3	A	18.3	18.9	19.0	18.7	19.4	19.5	19.1	19.3	20.0	19.8	20.1	20.0	1.3
J3K2216	005	B	C	T	18.9	A	18.0	18.0	17.8	17.9	19.5	19.6	19.3	19.5	19.1	19.2	19.4	19.2	1.6
	005	B	C	B	18.4	A	17.8	18.2	17.9	18.0	18.3	18.9	18.7	18.6	18.4	18.5	18.7	18.5	0.6
	006	B	C	T	18.6	A	17.8	18.1	18.0	18.0	19.0	19.1	18.8	19.0	18.9	19.1	18.8	18.9	1.0
	006	B	C	B	18.7	A	17.7	18.3	18.4	18.1	19.1	19.1	19.1	19.1	18.5	18.7	19.0	18.7	1.0
	007	B	C	T	18.7	A	18.1	17.9	18.1	18.0	18.9	19.2	19.2	19.1	18.7	18.9	19.1	18.9	1.1
	007	B	C	B	19.0	A	18.0	18.2	18.8	18.3	18.9	19.4	19.5	19.3	19.1	19.5	19.3	19.3	1.0
	008	B	C	T	19.0	A	18.5	18.7	18.6	18.6	19.6	19.6	19.3	19.5	18.8	18.8	19.1	18.9	0.9
	008	B	C	B	18.7	A	17.8	18.0	18.3	18.0	19.2	18.8	18.8	18.9	19.4	19.2	19.2	19.3	1.3
J3K2217	009	B	C	T	18.5	A	17.8	18.0	17.5	17.8	18.5	18.7	18.4	18.5	18.8	19.2	19.5	19.2	1.4
	009	B	C	B	18.9	A	17.9	18.8	18.8	18.5	18.8	19.3	19.3	19.1	18.7	19.2	19.3	19.1	0.6
	010	B	C	T	18.5	A	18.0	17.9	18.1	18.0	18.8	18.7	18.8	18.8	18.3	19.0	19.0	18.8	0.8
	010	B	C	B	18.6	A	17.8	18.2	18.3	18.1	18.5	18.8	19.0	18.8	18.9	19.0	18.6	18.8	0.7
	011	B	C	T	19.1	A	18.1	18.5	18.5	18.4	19.2	19.6	19.3	19.4	19.3	19.7	19.4	19.5	1.1
	011	B	C	B	18.5	A	17.9	18.0	18.2	18.0	18.6	19.0	18.9	18.8	18.6	18.8	18.7	18.7	0.8
J3K2219	012	B	C	T	18.6	A	18.0	18.2	18.5	18.2	19.2	19.1	18.9	19.1	18.6	18.5	18.7	18.6	0.9
	012	B	C	B	18.7	A	17.8	18.1	18.4	18.1	18.6	18.8	19.1	18.8	18.9	19.3	19.1	19.1	1.0
				*ALL	18.8														
*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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NO. 412116W23

INSPECTION CERTIFICATE

CERTIFICATE NO. :WYYK7170

PAGE : 5/7 DATE :2023-03-01

TEMPERING TEMPERATURE

HEAT NO.	PRODUCT PCS. (PCS. )	HEAT LOT/NO.	SETTING TEMPERING TEMPERATURE (° F)
J3K2036	47	001	1202
J3K2038	12	002	1202
J3K2215	100	003	1202
J3K2216	99	005	1202
J3K2216	98	006	1202
J3K2216	99	007	1202
J3K2216	24	008	1202
J3K2217	100	009	1202
J3K2217	100	010	1202
J3K2217	100	011	1202
J3K2219	95	012	1202
TOTAL	874		

REMARKS : TEMPERING TEMPERATURE CONTROL RANGE : SETTING TEMPERATURE +, -18° F

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## INSPECTION CERTIFICATE(COUPLING)

CERTIFICATE NO. :WYYK7170

PAGE : 6/7 DATE :2023-03-01

MATERIAL WORK NO. :WCKK2698

HEAT TREATMENT:QUENCHED & TEMPERED

### CHEMICAL COMPOSITION(%)

		*1	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	Al
						*2	*2					*2
SPEC. MIN.		R	-	-	-	-	-	-	-	-	-	-
MAX.		R	43	45	190	30	30	35	-	25	-	-
HEAT NO.		L	26	28	86	12	2	2	115	2	31	53
J2LC303		P	25	28	85	11	2	1	116	2	32	45
		P	25	28	86	11	1	1	117	2	33	50

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

### TENSILE TEST

		*1 *2	YS	TS	EL
			*3	*3	%
SPEC. MIN.	HEAT-	L B	P 80.0	P 95.0	15
MAX.	LOT NO.	L B	P 95.0	P -	-
HEAT NO.		L B	P 90.9	P 111.0	26
J2LC303	001	L B	P 90.9	P 111.0	26
	001	L B	P 90.9	P 111.0	26

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.	HEAT-	T B	E F	*5 11/17	S %	*6 75
MAX.	LOT NO.	T B	E F	-/-	S %	-
			[1] [2] [3]		[1] [2] [3]	
HEAT NO.		T B	E F	146 146 145 146	S %	100 100 100 100
J2LC303	001	T B	E F	146 146 145 146	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 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: ACCEPTABLE

APPLICABLE STANDARD: API 5CT

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

THESE COUPLINGS WERE MANUFACTURED UNDER THE API 5CT COUPLING LICENSE OF NSPM.

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CERTIFICATE NO. :WYK7170

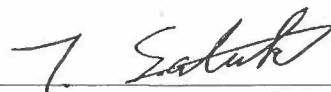
PAGE : 7/7 DATE :2023-03-01

### HARDNESS TEST ( HRC )

		*1*2	*3	*4		*5												*V. A.	
SPEC. MIN.		B	C	-		-												-	
MAX.		B	C	24.0		23.0												-	
HEAT NO.	HEAT- LOT 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.			
J2LC303	001	B	C	T	19.1	A	18.0	18.5	18.0	18.2	20.4	20.7	20.5	20.5	18.6	18.5	18.4	18.5	2.3
	001	B	C	B	19.6	A	18.3	18.6	18.5	18.5	20.4	20.1	20.3	20.3	19.9	19.9	20.2	20.0	1.8
		*ALL			19.3														
*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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NO. 412116W23

## INSPECTION CERTIFICATE

CERTIFICATE NO. :WYYK7170

PAGE : 1/7 DATE : 2023-03-01

CUSTOMER :TAQA ATRUSH B. V.  
ORDER NO. :25346. 0  
SHIPPER :SUMITOMO CORPORATION 057 KEJ-2005/1 3-845-N3-5-3-AW60-01  
COMMODITY :SEAMLESS HOT FINISHED STEEL CASING WITH VAM TOP  
STANDARD :API 5CT GR.L80-TYPE 1 PSL 2(10TH ED., 2018, ADDENDUM, 2021)  
SPECIFICATION :TSP-5132R0  
MILL WORK NO. :WYYK7170 O.D.:9-5/8inch W.T.:47.00lb/ft LENGTH:MIN.34.0feet MAX.37.7feet  
QUANTITY:874pcs. TOTAL LENGTH:32764.24feet MASS:698534kg

HEAT NO. :J3K2036 J3K2038 J3K2215 J3K2216 J3K2217 J3K2219  
PRODUCTS PCS. :47 12 100 320 300 95

HEAT TREATMENT :QUENCHED & TEMPERED

### CHEMICAL COMPOSITION(%)

			C	Si	Mn	P	S	Cu	Cr	Ni	Mo	Al
		*1				*2	*2					*2
SPEC. MIN.		R	-	-	-	-	-	-	-	-	-	-
MAX.		R	43	45	190	30	30	35	-	25	-	-
HEAT NO.												
J3K2036		L	23	30	131	16	2	2	21	2	1	36
		P	23	30	132	15	2	1	22	2	1	35
		P	23	30	133	14	2	1	22	2	1	36
J3K2038		L	24	29	136	15	2	1	21	2	1	36
		P	23	30	135	16	3	1	22	2	1	34
		P	23	30	133	14	2	1	22	2	1	34
J3K2215		L	24	31	136	13	3	2	20	2	2	40
		P	23	31	135	12	3	1	21	2	2	43
		P	23	31	135	12	2	1	21	2	2	43
J3K2216		L	25	31	136	14	3	2	20	2	1	32
		P	24	31	134	12	3	2	21	2	1	37
		P	24	31	134	13	3	2	21	2	1	37
J3K2217		L	24	32	132	15	3	2	20	2	1	32
		P	24	31	132	13	3	2	20	2	1	32
		P	24	32	132	14	3	2	21	2	1	33
J3K2219		L	24	30	130	14	3	2	20	2	1	31
		P	23	31	131	14	2	2	21	2	1	34
		P	23	31	129	13	2	2	21	2	1	33

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

### TENSILE TEST

		*1	*2	YS	TS	EL
				*3	*3	%
SPEC. MIN.	HEAT-	L	B	P 80.0	P 95.0	19
MAX.	LOT NO.	L	B	P 95.0	P -	-
HEAT NO.						
J3K2036	001	L	B	P 89.9	P 106.6	29
	001	L	B	P 86.9	P 104.7	29

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CERTIFICATE NO. :WYYK7170

PAGE : 2/7 DATE : 2023-03-01

### 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 -	19 -
HEAT NO.					
J3K2038	002	L B	P 89.5	P 105.7	28
	002	L B	P 89.2	P 106.0	28
J3K2215	003	L B	P 90.9	P 107.2	28
	003	L B	P 88.6	P 106.0	29
J3K2216	005	L B	P 88.8	P 106.3	29
	005	L B	P 85.0	P 103.7	29
	006	L B	P 87.2	P 105.9	30
	006	L B	P 87.5	P 106.0	30
	007	L B	P 88.3	P 106.7	29
	007	L B	P 87.9	P 105.9	29
	008	L B	P 87.7	P 105.3	30
	008	L B	P 89.2	P 107.0	30
J3K2217	009	L B	P 87.6	P 104.9	29
	009	L B	P 85.7	P 104.6	28
	010	L B	P 88.0	P 105.7	30
	010	L B	P 85.0	P 103.4	27
	011	L B	P 87.5	P 104.9	30
	011	L B	P 88.2	P 105.6	30
J3K2219	012	L B	P 89.3	P 105.9	28
	012	L B	P 88.0	P 105.3	28

TYPE OF SPECIMEN:STRIP 1-1/2in. WIDTH \*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 10X7.50)

		*1 *2	*3 *4	AVG				*3 *4	AVG			
SPEC. MIN. MAX.	HEAT- LOT NO.	T B	E F	*5	6/9	9		S %	*6	75	-	
		T B	E F		-/-	-		S %		-	-	
				[1]	[2]	[3]		[1]	[2]	[3]		
HEAT NO.												
J3K2036	001	T B	E F	76	74	76	75	S %	100	100	98	99
J3K2038	002	T B	E F	61	66	73	67	S %	98	98	100	99
J3K2215	003	T B	E F	72	69	67	69	S %	98	99	98	98
J3K2216	005	T B	E F	72	69	72	71	S %	100	100	100	100
	006	T B	E F	69	69	74	71	S %	100	100	100	100
	007	T B	E F	65	63	67	65	S %	100	100	100	100
	008	T B	E F	62	66	60	63	S %	100	100	100	100
J3K2217	009	T B	E F	63	66	68	66	S %	100	100	100	100
	010	T B	E F	77	77	77	77	S %	100	100	100	100
	011	T B	E F	62	64	64	63	S %	100	100	100	100
J3K2219	012	T B	E F	83	80	74	79	S %	100	100	100	100

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\*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 F: ft·lbf %: %

VISUAL &amp; DIMENSIONS: ACCEPTABLE

DRIFT TEST: ACCEPTABLE

HYDROSTATIC TEST 6300psiX5sec.: ACCEPTABLE

ULTRASONIC EXAMINATION: ACCEPTABLE

APPLICABLE STANDARD: API 5CT

REFERENCE STANDARD: L2 EXTERNAL &amp; INTERNAL LONGITUDINAL &amp; TRANSVERSE NOTCH LENGTH 2.0in. WIDTH 0.040in.

ULTRASONIC WALL THICKNESS CHECK: ACCEPTABLE

SR16: ACCEPTABLE

REGARDING COUPLING, PROCESSING, PRODUCT CONFORMANCE VERIFICATION AND API MONOGRAM APPLICATION WERE PERFORMED AT  
THE FACILITY OF NIPPON STEEL CORPORATION WAKAYAMA AREA, THAT IS AUTHORIZED API MARKER.

THE PRODUCT HAS BEEN MANUFACTURED, SAMPLED, TESTED AND/OR INSPECTED IN ACCORDANCE WITH THIS DOCUMENT (\*1)  
AND HAS BEEN FOUND TO MEET THE REQUIREMENTS.

\*1) THIS DOCUMENT MEANS "STANDARD" THAT APPLIES TO THIS INSPECTION CERTIFICATE.



TAKAFUMI SATSUKI

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QUALITY ASSURANCE DEPARTMENT

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NO. 412116W23

**INSPECTION CERTIFICATE**

CERTIFICATE NO. : WYK7170

PAGE : 4/7 DATE : 2023-03-01

**HARDNESS TEST ( HRC )**

		*1*2	*3	*4	*5														*V. A.
SPEC. MIN.		B	C	-	-														-
MAX.		B	C	24.0	23.0														-
	HEAT-			AVG.	OUTER WALL				MID WALL				INNER WALL						
	LOT NO.				QUAD	IMPRESSION NO.			IMPRESSION NO.			IMPRESSION NO.							
HEAT NO.					-RANT	(1)	(2)	(3)	AVG.	(1)	(2)	(3)	AVG.	(1)	(2)	(3)	AVG.		
J3K2036	001	B	C	T	18.7	A	17.9	18.2	17.7	17.9	19.1	19.2	19.1	19.1	18.8	19.0	19.3	19.0	1.2
	001	B	C	B	18.5	A	17.8	17.8	18.3	18.0	18.6	18.8	18.9	18.8	19.0	18.7	19.0	18.9	0.9
J3K2038	002	B	C	T	18.8	A	17.8	18.3	18.4	18.2	19.0	19.4	19.3	19.2	19.0	18.8	19.3	19.0	1.0
	002	B	C	B	19.2	A	18.1	18.5	18.5	18.4	19.4	19.4	19.8	19.5	19.5	19.9	19.9	19.8	1.4
J3K2215	003	B	C	T	19.0	A	18.3	18.3	18.5	18.4	19.5	19.6	19.5	19.5	19.1	19.2	19.4	19.2	1.1
	003	B	C	B	19.3	A	18.3	18.9	19.0	18.7	19.4	19.5	19.1	19.3	20.0	19.8	20.1	20.0	1.3
J3K2216	005	B	C	T	18.9	A	18.0	18.0	17.8	17.9	19.5	19.6	19.3	19.5	19.1	19.2	19.4	19.2	1.6
	005	B	C	B	18.4	A	17.8	18.2	17.9	18.0	18.3	18.9	18.7	18.6	18.4	18.5	18.7	18.5	0.6
	006	B	C	T	18.6	A	17.8	18.1	18.0	18.0	19.0	19.1	18.8	19.0	18.9	19.1	18.8	18.9	1.0
	006	B	C	B	18.7	A	17.7	18.3	18.4	18.1	19.1	19.1	19.1	19.1	18.5	18.7	19.0	18.7	1.0
	007	B	C	T	18.7	A	18.1	17.9	18.1	18.0	18.9	19.2	19.2	19.1	18.7	18.9	19.1	18.9	1.1
	007	B	C	B	19.0	A	18.0	18.2	18.8	18.3	18.9	19.4	19.5	19.3	19.1	19.5	19.3	19.3	1.0
	008	B	C	T	19.0	A	18.5	18.7	18.6	18.6	19.6	19.6	19.3	19.5	18.8	18.8	19.1	18.9	0.9
	008	B	C	B	18.7	A	17.8	18.0	18.3	18.0	19.2	18.8	18.8	18.9	19.4	19.2	19.2	19.3	1.3
J3K2217	009	B	C	T	18.5	A	17.8	18.0	17.5	17.8	18.5	18.7	18.4	18.5	18.8	19.2	19.5	19.2	1.4
	009	B	C	B	18.9	A	17.9	18.8	18.8	18.5	18.8	19.3	19.3	19.1	18.7	19.2	19.3	19.1	0.6
	010	B	C	T	18.5	A	18.0	17.9	18.1	18.0	18.8	18.7	18.8	18.8	18.3	19.0	19.0	18.8	0.8
	010	B	C	B	18.6	A	17.8	18.2	18.3	18.1	18.5	18.8	19.0	18.8	18.9	19.0	18.6	18.8	0.7
	011	B	C	T	19.1	A	18.1	18.5	18.5	18.4	19.2	19.6	19.3	19.4	19.3	19.7	19.4	19.5	1.1
	011	B	C	B	18.5	A	17.9	18.0	18.2	18.0	18.6	19.0	18.9	18.8	18.6	18.8	18.7	18.7	0.8
J3K2219	012	B	C	T	18.6	A	18.0	18.2	18.5	18.2	19.2	19.1	18.9	19.1	18.6	18.5	18.7	18.6	0.9
	012	B	C	B	18.7	A	17.8	18.1	18.4	18.1	18.6	18.8	19.1	18.8	18.9	19.3	19.1	19.1	1.0
		*ALL		18.8															
*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.																			

THE PRODUCT HAS BEEN MANUFACTURED, SAMPLED, TESTED AND/OR INSPECTED IN ACCORDANCE WITH THIS DOCUMENT(\*1)  
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NO. 412116W23



INSPECTION CERTIFICATE

CERTIFICATE NO. :WYK7170

PAGE : 5/7 DATE :2023-03-01

TEMPERING TEMPERATURE

HEAT NO.	PRODUCT PCS. (PCS.)	HEAT LOT/NO.	SETTING TEMPERING TEMPERATURE (°F)
J3K2036	47	001	1202
J3K2038	12	002	1202
J3K2215	100	003	1202
J3K2216	99	005	1202
J3K2216	98	006	1202
J3K2216	99	007	1202
J3K2216	24	008	1202
J3K2217	100	009	1202
J3K2217	100	010	1202
J3K2217	100	011	1202
J3K2219	95	012	1202
TOTAL	874		

REMARKS : TEMPERING TEMPERATURE CONTROL RANGE : SETTING TEMPERATURE +, -18°F

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## INSPECTION CERTIFICATE(COUPLING)

CERTIFICATE NO. :WYK7170

PAGE : 6 / 7 DATE :2023-03-01

MATERIAL WORK NO. :WCKK2698

HEAT TREATMENT:QUENCHED & TEMPERED

### CHEMICAL COMPOSITION(%)

		*1	C	Si	Mn	P	S	Cu	Cr	Ni	Mo	Al
						*2	*2					*2
SPEC. MIN.		R	-	-	-	-	-	-	-	-	-	-
MAX.		R	43	45	190	30	30	35	-	25	-	-
HEAT NO.		L	26	28	86	12	2	2	115	2	31	53
J2LC303		P	25	28	85	11	2	1	116	2	32	45
		P	25	28	86	11	1	1	117	2	33	50

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

### TENSILE TEST

			YS	TS	EL
		*1 *2	*3	*3	%
SPEC. MIN.	HEAT-	L B	P 80.0	P 95.0	15
MAX.	LOT NO.	L B	P 95.0	P -	-
HEAT NO.					
J2LC303	001	L B	P 90.9	P 111.0	26
	001	L B	P 90.9	P 111.0	26

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- LOT NO.	T B	E F	*5	11/17		17	S %	*6	75		-
		T B	E F		-/-		-	S %		-		-
				[1]	[2]	[3]			[1]	[2]	[3]	
HEAT NO. J2LC303	001	T B	E F	146	146	145	146	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 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: ACCEPTABLE

APPLICABLE STANDARD: API 5CT

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

THESE COUPLINGS WERE MANUFACTURED UNDER THE API 5CT COUPLING LICENSE OF NSPM.

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CERTIFICATE NO. : WYK7170

PAGE : 7/7 DATE : 2023-03-01

### HARDNESS TEST ( HRC )

		*1*2	*3	*4	*5														*V. A.
SPEC. MIN.		B	C	-	-														-
MAX.		B	C	24.0	23.0														-
	HEAT-			AVG.	OUTER WALL				MID WALL				INNER WALL						
	LOT NO.				QUAD	IMPRESSION NO.			IMPRESSION NO.				IMPRESSION NO.						
HEAT NO.					-RANT	(1)	(2)	(3)	AVG.	(1)	(2)	(3)	AVG.	(1)	(2)	(3)	AVG.		
J2LC303	001	B	C	T	19.1	A	18.0	18.5	18.0	18.2	20.4	20.7	20.5	20.5	18.6	18.5	18.4	18.5	2.3
	001	B	C	B	19.6	A	18.3	18.6	18.5	18.5	20.4	20.1	20.3	20.3	19.9	19.9	20.2	20.0	1.8
		*ALL			19.3														
*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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