



REPORT INDEX

Purchase Order: ET2022301-6

Quantity: 20 EA

Shipment No. :

Shipment Date:

[illegible]



C&W International Fabricators

METALLURGICAL TEST CERTIFICATE

Serial No. :	ET2022301-6-01...20	PO# :	ET2022301-6	Date:	2023-03-11							
Part No:	BF715	API Monogram:	YES	Report#:	2023031109							
Specification:	API Spec 6A/ ASTM A370	Material:	4130 75K per ASTM A29									
Description:	BLIND FLANGE 7 1/16" 15M EE L-U PSL3 PR1			Qty:	20 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	4:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No.:	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
2087148Z	20	1	0.30	0.54	0.26	0.005	0.011	0.05	0.06	0.16	1.06	0.006
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mmX10mm Charpy J (ft. lb) At -46° c	Minimum Lateral	Shear Fraction		
Spec Min			75K	95K	18.0	35.0	197	27J				
Spec Max			/	/	/	/	235	/				
TM2302070301	20	1	79.0 K	98.3 K	24.6	53.7	217	50;57;66				
HEAT TREATMENT												
Forgings:	4:1		Test Bar (OTC)									
Normalized:	900°C 4 HRS		Normalized:	900°C 4 HRS								
Austenitized:	880°C 4 HRS		Austenitized:	880°C 4 HRS								
Quenchant:	WATER		Quenchant:	WATER								
Start Temp:	24 °C		Start Temp:	24 °C								
End Temp:	41 °C		End Temp:	41 °C								
Temper:	660°C 4 HRS AIR		Temper:	660°C 4 HRS AIR								
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:			Approved by:									



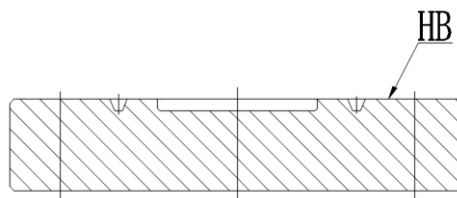
C&W International Fabricators

Hardness Test Report

Serial No.:	ET2022301-6-01...20	PO#:	ET2022301-6	Date:	2023-03-11
Part No:	BF715	API Monogram:	YES	Report#:	2023031109
Specification:	API Spec 6A/ ASTM E10	Material:	4130 75K per ASTM A29		
Description:	BLIND FLANGE 7 1/16" 15M EE L-U PSL3 PR1			Qty:	20 EA

Item	S/N	Heat Lot No.	HB	Item	S/N	Heat Lot No.	HB
1	ET2022301-6-01	TM2302070301	229				
2	ET2022301-6-02	TM2302070301	231				
3	ET2022301-6-03	TM2302070301	229				
4	ET2022301-6-04	TM2302070301	235				
5	ET2022301-6-05	TM2302070301	229				
6	ET2022301-6-06	TM2302070301	225				
7	ET2022301-6-07	TM2302070301	231				
8	ET2022301-6-08	TM2302070301	229				
9	ET2022301-6-09	TM2302070301	225				
10	ET2022301-6-10	TM2302070301	229				
11	ET2022301-6-11	TM2302070301	223				
12	ET2022301-6-12	TM2302070301	225				
13	ET2022301-6-13	TM2302070301	231				
14	ET2022301-6-14	TM2302070301	225				
15	ET2022301-6-15	TM2302070301	223				
16	ET2022301-6-16	TM2302070301	229				
17	ET2022301-6-17	TM2302070301	231				
18	ET2022301-6-18	TM2302070301	223				
19	ET2022301-6-19	TM2302070301	223				
20	ET2022301-6-20	TM2302070301	229				

Sketch:



Method Used:	Impact Energy:3000Kg. Diameter of steel ball:10mm		
Acceptable Hardness	197HBW-235HBW	Inspected by:	Approved by:
Judgments:	[V] Conform	刘永友	徐俊
	[] Do not conform		

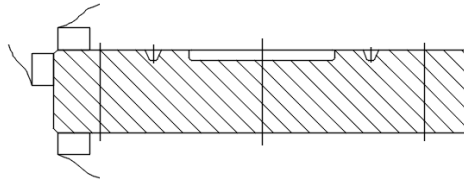


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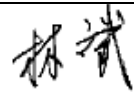
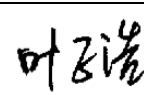
ULTRASONIC EXAMINATION REPORT

Serial No. :	ET2022301-6-01...20			PO# :	ET2022301-6	Date:	2023-03-11		
Part No:	BF715			API Monogram:	YES	Report#:	2023031109		
Specification:	API Spec 6A/ ASTM A388			Material:	4130 75K per ASTM A29				
Description:	BLIND FLANGE 7 1/16" 15M EE L-U PSL3 PRI					Qty:	20 EA		
Item	S/N		Heat Lot No.	Result	Item	S/N		Heat Lot No.	Result
1	ET2022301-6-01		TM2302070301	Acceptable					
2	ET2022301-6-02		TM2302070301	Acceptable					
3	ET2022301-6-03		TM2302070301	Acceptable					
4	ET2022301-6-04		TM2302070301	Acceptable					
5	ET2022301-6-05		TM2302070301	Acceptable					
6	ET2022301-6-06		TM2302070301	Acceptable					
7	ET2022301-6-07		TM2302070301	Acceptable					
8	ET2022301-6-08		TM2302070301	Acceptable					
9	ET2022301-6-09		TM2302070301	Acceptable					
10	ET2022301-6-10		TM2302070301	Acceptable					
11	ET2022301-6-11		TM2302070301	Acceptable					
12	ET2022301-6-12		TM2302070301	Acceptable					
13	ET2022301-6-13		TM2302070301	Acceptable					
14	ET2022301-6-14		TM2302070301	Acceptable					
15	ET2022301-6-15		TM2302070301	Acceptable					
16	ET2022301-6-16		TM2302070301	Acceptable					
17	ET2022301-6-17		TM2302070301	Acceptable					
18	ET2022301-6-18		TM2302070301	Acceptable					
19	ET2022301-6-19		TM2302070301	Acceptable					
20	ET2022301-6-20		TM2302070301	Acceptable					

Sketch:



ABOVE FORGED ARE ULTRASONICALLY TESTED FOR INTERNAL DEFECTS USSING FLAT-BOTTOM HOLE PROCEDURE;
NO RECORDABLE INDICATION OBSERVED DURING THE TEST. HENCE ACCEPTABLE AS PER STANDARD.

UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam.Stage: After heat treatment	Calibration Block:CSK IA	 Level as per UT II	 Level as per UT II
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5P φ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration date :2022.09.10	Test Gain:20db + 5 db		
Equipment Due date :2023.09.09			

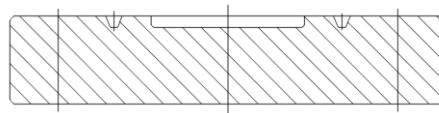


C&W International Fabricators

Magnetic Particle Inspection Report

Serial No. :		ET2022301-6-01...20		PO# :		ET2022301-6		Date:		2023-03-11		
Part No:		BF715		API Monogram:		YES		Report#:		2023031109		
Specification:		API Spec 6A/ ASTM E709		Material:		4130 75K per ASTM A29						
Description:		BLIND FLANGE 7 1/16" 15M EE L-U PSL3 PRI							Qty:		20 EA	
Item	S/N		Heat Lot No.	Result	Item	S/N		Heat Lot No.	Result			
1	ET2022301-6-01		TM2302070301	Acceptable								
2	ET2022301-6-02		TM2302070301	Acceptable								
3	ET2022301-6-03		TM2302070301	Acceptable								
4	ET2022301-6-04		TM2302070301	Acceptable								
5	ET2022301-6-05		TM2302070301	Acceptable								
6	ET2022301-6-06		TM2302070301	Acceptable								
7	ET2022301-6-07		TM2302070301	Acceptable								
8	ET2022301-6-08		TM2302070301	Acceptable								
9	ET2022301-6-09		TM2302070301	Acceptable								
10	ET2022301-6-10		TM2302070301	Acceptable								
11	ET2022301-6-11		TM2302070301	Acceptable								
12	ET2022301-6-12		TM2302070301	Acceptable								
13	ET2022301-6-13		TM2302070301	Acceptable								
14	ET2022301-6-14		TM2302070301	Acceptable								
15	ET2022301-6-15		TM2302070301	Acceptable								
16	ET2022301-6-16		TM2302070301	Acceptable								
17	ET2022301-6-17		TM2302070301	Acceptable								
18	ET2022301-6-18		TM2302070301	Acceptable								
19	ET2022301-6-19		TM2302070301	Acceptable								
20	ET2022301-6-20		TM2302070301	Acceptable								

Sketch/Inspection Coverage:



Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface

Evaluation & Disposition : Found to be satisfactory.

Equipment	CJD -9000	MT Code	ASTM E709	Examined	Approved
Test Method	Fulcrum [] Cable1 [✓]	Particle Type	Fluorescence Wet	BY: 林斌	by: 叶飞浩
Exam. Stage	Rough After Ra $\leq 6.3\mu\text{m}$	Test Piece	A1-30/100	Level as	Level as
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1	per	per
Concentration	0.3ml/100ml	UV-Light Intensity	$\geq 1000\text{Uw/C m}^2$	MT II	MT II



REPORT INDEX

Purchase Order: ET2022301-6

Quantity: 20 EA

Shipment No. :

Shipment Date:

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C&W International Fabricators

METALLURGICAL TEST CERTIFICATE

Serial No. :	ET2022301-6-01...20	PO# :	ET2022301-6	Date:	2023-03-11							
Part No:	BF715	API Monogram:	YES	Report#:	2023031109							
Specification:	API Spec 6A/ ASTM A370	Material:	4130 75K per ASTM A29									
Description:	BLIND FLANGE 7 1/16" 15M EE L-U PSL3 PR1			Qty:	20 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	4:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No.:	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
2087148Z	20	1	0.30	0.54	0.26	0.005	0.011	0.05	0.06	0.16	1.06	0.006
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm x 10mm CHARPY J (ft. lb) At -46° c	Minimum Lateral	Shear Fraction		
Spec Min			75K	95K	18.0	35.0	197	27J				
Spec Max			/	/	/	/	235	/				
TM2302070301	20	1	79.0 K	98.3 K	24.6	53.7	217	50;57;66				
HEAT TREATMENT												
Forgings:	4:1		Test Bar (OTC)									
Normalized:	900°C 4 HRS		Normalized:			900°C 4 HRS						
Austenitized:	880°C 4 HRS		Austenitized:			880°C 4 HRS						
Quenchant:	WATER		Quenchant:			WATER						
Start Temp:	24 °C		Start Temp:			24 °C						
End Temp:	41 °C		End Temp:			41 °C						
Temper:	660°C 4 HRS AIR		Temper:			660°C 4 HRS AIR						
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:	张金龙		Approved by:		徐俊							



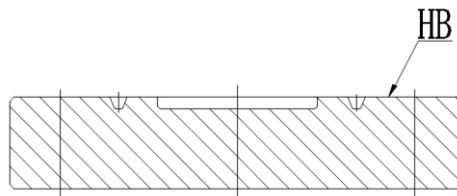
C&W International Fabricators

Hardness Test Report

Serial No.:	ET2022301-6-01...20	PO#:	ET2022301-6	Date:	2023-03-11
Part No:	BF715	API Monogram:	YES	Report#:	2023031109
Specification:	API Spec 6A/ ASTM E10	Material:	4130 75K per ASTM A29		
Description:	BLIND FLANGE 7 1/16" 15M EE L-U PSL3 PR1			Qty:	20 EA

Item	S/N	Heat Lot No.	HB	Item	S/N	Heat Lot No.	HB
1	ET2022301-6-01	TM2302070301	229				
2	ET2022301-6-02	TM2302070301	231				
3	ET2022301-6-03	TM2302070301	229				
4	ET2022301-6-04	TM2302070301	235				
5	ET2022301-6-05	TM2302070301	229				
6	ET2022301-6-06	TM2302070301	225				
7	ET2022301-6-07	TM2302070301	231				
8	ET2022301-6-08	TM2302070301	229				
9	ET2022301-6-09	TM2302070301	225				
10	ET2022301-6-10	TM2302070301	229				
11	ET2022301-6-11	TM2302070301	223				
12	ET2022301-6-12	TM2302070301	225				
13	ET2022301-6-13	TM2302070301	231				
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18	ET2022301-6-18	TM2302070301	223				
19	ET2022301-6-19	TM2302070301	223				
20	ET2022301-6-20	TM2302070301	229				

Sketch:



Method Used:	Impact Energy:3000Kg. Diameter of steel ball:10mm		
Acceptable Hardness	197HBW-235HBW	Inspected by:	Approved by:
Judgments:	[V] Conform	刘永友	徐俊
	[] Do not conform		

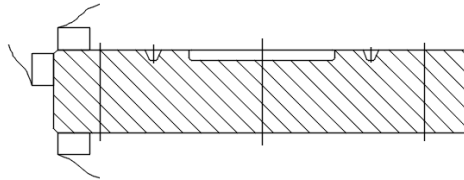


C&W International Fabricators

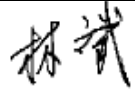
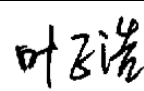
ULTRASONIC EXAMINATION REPORT

Serial No. :	ET2022301-6-01...20			PO# :	ET2022301-6	Date:	2023-03-11		
Part No:	BF715			API Monogram:	YES	Report#:	2023031109		
Specification:	API Spec 6A/ ASTM A388			Material:	4130 75K per ASTM A29				
Description:	BLIND FLANGE 7 1/16" 15M EE L-U PSL3 PRI					Qty:	20 EA		
Item	S/N		Heat Lot No.	Result	Item	S/N		Heat Lot No.	Result
1	ET2022301-6-01		TM2302070301	Acceptable					
2	ET2022301-6-02		TM2302070301	Acceptable					
3	ET2022301-6-03		TM2302070301	Acceptable					
4	ET2022301-6-04		TM2302070301	Acceptable					
5	ET2022301-6-05		TM2302070301	Acceptable					
6	ET2022301-6-06		TM2302070301	Acceptable					
7	ET2022301-6-07		TM2302070301	Acceptable					
8	ET2022301-6-08		TM2302070301	Acceptable					
9	ET2022301-6-09		TM2302070301	Acceptable					
10	ET2022301-6-10		TM2302070301	Acceptable					
11	ET2022301-6-11		TM2302070301	Acceptable					
12	ET2022301-6-12		TM2302070301	Acceptable					
13	ET2022301-6-13		TM2302070301	Acceptable					
14	ET2022301-6-14		TM2302070301	Acceptable					
15	ET2022301-6-15		TM2302070301	Acceptable					
16	ET2022301-6-16		TM2302070301	Acceptable					
17	ET2022301-6-17		TM2302070301	Acceptable					
18	ET2022301-6-18		TM2302070301	Acceptable					
19	ET2022301-6-19		TM2302070301	Acceptable					
20	ET2022301-6-20		TM2302070301	Acceptable					

Sketch:



ABOVE FORGED ARE ULTRASONICALLY TESTED FOR INTERNAL DEFECTS USSING FLAT-BOTTOM HOLE PROCEDURE;
NO RECORDABLE INDICATION OBSERVED DURING THE TEST. HENCE ACCEPTABLE AS PER STANDARD.

UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam.Stage: After heat treatment	Calibration Block:CSK IA	 Level as per UT II	 Level as per UT II
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5P φ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration date :2022.09.10	Test Gain:20db + 5 db		
Equipment Due date :2023.09.09			

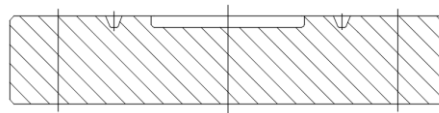


C&W International Fabricators

Magnetic Particle Inspection Report

Serial No. :		ET2022301-6-01...20		PO# :		ET2022301-6		Date:		2023-03-11		
Part No:		BF715		API Monogram:		YES		Report#:		2023031109		
Specification:		API Spec 6A/ ASTM E709		Material:		4130 75K per ASTM A29						
Description:		BLIND FLANGE 7 1/16" 15M EE L-U PSL3 PRI							Qty:		20 EA	
Item	S/N		Heat Lot No.	Result	Item	S/N		Heat Lot No.	Result			
1	ET2022301-6-01		TM2302070301	Acceptable								
2	ET2022301-6-02		TM2302070301	Acceptable								
3	ET2022301-6-03		TM2302070301	Acceptable								
4	ET2022301-6-04		TM2302070301	Acceptable								
5	ET2022301-6-05		TM2302070301	Acceptable								
6	ET2022301-6-06		TM2302070301	Acceptable								
7	ET2022301-6-07		TM2302070301	Acceptable								
8	ET2022301-6-08		TM2302070301	Acceptable								
9	ET2022301-6-09		TM2302070301	Acceptable								
10	ET2022301-6-10		TM2302070301	Acceptable								
11	ET2022301-6-11		TM2302070301	Acceptable								
12	ET2022301-6-12		TM2302070301	Acceptable								
13	ET2022301-6-13		TM2302070301	Acceptable								
14	ET2022301-6-14		TM2302070301	Acceptable								
15	ET2022301-6-15		TM2302070301	Acceptable								
16	ET2022301-6-16		TM2302070301	Acceptable								
17	ET2022301-6-17		TM2302070301	Acceptable								
18	ET2022301-6-18		TM2302070301	Acceptable								
19	ET2022301-6-19		TM2302070301	Acceptable								
20	ET2022301-6-20		TM2302070301	Acceptable								

Sketch/Inspection Coverage:



Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface

Evaluation & Disposition : Found to be satisfactory.

Equipment	CJD -9000	MT Code	ASTM E709	Examined	Approved
Test Method	Fulcrum [] Cable1 [✓]	Particle Type	Fluorescence Wet	BY: 林斌	by: 叶飞浩
Exam. Stage	Rough After Ra $\leq 6.3\mu\text{m}$	Test Piece	A1-30/100	Level as	Level as
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1	per	per
Concentration	0.3ml/100ml	UV-Light Intensity	$\geq 1000\text{Uw/C m}^2$	MT II	MT II



C&W International Fabricators

REPORT INDEX

Purchase Order: **ET2022232-1**

Quantity: **40 EA**

Shipment No. :

Shipment Date:

Activity No.	Characteristics	Reference Page
1.1	BLIND FLANGE 7 1/16" 15M	Page-2
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1.1.2	Mechanical Testing	Page-2
1.1.3	Chemical Testing	Page-2
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C&W International Fabricators

METALLURGICAL TEST CERTIFICATE

Serial No.:	ET2022232-1-01...40	PO#:	ET2022232	Date:	2022-11-05							
Part No:		API Monogram:	YES	Report#:	20221105							
Specification:	API Spec 6A/ ASTM A370	Material:	4130 75K per ASTM A29									
Description:	BLIND FLANGE 7 1/16" 15M EE L-U PSL3 PR1			Qty:	40 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	4:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No.:	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
CD22-03-076	50	1	0.314	0.496	0.193	0.014	0.017	0.248	0.073	0.195	0.911	0.003
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (Kpsi)	Tensile Strength (Kpsi)	Elongation%	Reduction of Area%	Hardness HB	10mm X 10mm Charpy J (ft. lb) At -46° c	Minimum Lateral	Shear Fraction		
Spec Min			75K	95K	18.0	35.0	197	27J				
Spec Max			/	/	/	/	235	/				
TM2210200201	50	1	81.5 K	101.5 K	51.5	64.3	217	51;46;48				
HEAT TREATMENT												
Forgings:	4:1		Test Bar (OTC)									
Normalized:	903°C 4 HRS		Normalized:	903°C 4 HRS								
Austenitized:	860°C 4 HRS		Austenitized:	860°C 4 HRS								
Quenchant:	Water		Quenchant:	Water								
Start Temp:	29 °C		Start Temp:	29 °C								
End Temp:	38 °C		End Temp:	38 °C								
Temper:	660°C 6 HRS AIR		Temper:	660°C 6 HRS AIR								
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:	张金龙		Approved by:	徐根								



C&W International Fabricators

Hardness Test Report

Serial No.:	ET2022232-1-01...40	PO# :	ET2022232	Date:	2022-11-05
Part No:		API Monogram:	YES	Report#:	20221105
Specification:	API Spec 6A/ ASTM E10	Material:	4130 75K per ASTM A29		
Description:	BLIND FLANGE 7 1/16" 15M EE L-U PSL3 PR1	Qty:	40 EA		

Item	S/N	Heat Lot No.	HB	Item	S/N	Heat Lot No.	HB
1	ET2022232-1-01	TM2210200201	231	26	ET2022232-1-26	TM2210200201	229
2	ET2022232-1-02	TM2210200201	225	27	ET2022232-1-27	TM2210200201	225
3	ET2022232-1-03	TM2210200201	229	28	ET2022232-1-28	TM2210200201	121
4	ET2022232-1-04	TM2210200201	223	29	ET2022232-1-29	TM2210200201	225
5	ET2022232-1-05	TM2210200201	225	30	ET2022232-1-30	TM2210200201	223
6	ET2022232-1-06	TM2210200201	221	31	ET2022232-1-31	TM2210200201	221
7	ET2022232-1-07	TM2210200201	225	32	ET2022232-1-32	TM2210200201	223
8	ET2022232-1-08	TM2210200201	223	33	ET2022232-1-33	TM2210200201	229
9	ET2022232-1-09	TM2210200201	229	34	ET2022232-1-34	TM2210200201	225
10	ET2022232-1-10	TM2210200201	223	35	ET2022232-1-35	TM2210200201	231
11	ET2022232-1-11	TM2210200201	223	36	ET2022232-1-36	TM2210200201	229
12	ET2022232-1-12	TM2210200201	225	37	ET2022232-1-37	TM2210200201	223
13	ET2022232-1-13	TM2210200201	229	38	ET2022232-1-38	TM2210200201	225
14	ET2022232-1-14	TM2210200201	231	39	ET2022232-1-39	TM2210200201	231
15	ET2022232-1-15	TM2210200201	225	40	ET2022232-1-40	TM2210200201	229
16	ET2022232-1-16	TM2210200201	223				
17	ET2022232-1-17	TM2210200201	229				
18	ET2022232-1-18	TM2210200201	221				
19	ET2022232-1-19	TM2210200201	225				
20	ET2022232-1-20	TM2210200201	223				
21	ET2022232-1-21	TM2210200201	229				
22	ET2022232-1-22	TM2210200201	229				
23	ET2022232-1-23	TM2210200201	225				
24	ET2022232-1-24	TM2210200201	223				
25	ET2022232-1-25	TM2210200201	231				

Sketch:

Method Used:	Impact Energy:3000Kg. Diameter of steel ball:10mm		
Acceptable Hardness	197HBW-235HBW	Inspected by:	Approved by:
Judgments:	[V] Conform	刘永良	徐俊
	[] Do not conform		

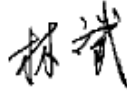


C&W International Fabricators

ULTRASONIC EXAMINATION REPORT

Serial No. :		ET2022232-1-01...40		PO# :		ET2022232		Date:		2022-11-05	
Part No:				API Monogram:		YES		Report#:		20221105	
Specification:		API Spec 6A/ ASTM A388		Material:		4130 75K per ASTM A29					
Description:		BLIND FLANGE 7 1/16" 15M EE L-U PSL3 PR1						Qty:		40 EA	
Item	S/N		Heat Lot No.	Result	Item	S/N		Heat Lot No.	Result		
1	ET2022232-1-01		TM2210200201	Acceptable	26	ET2022232-1-26		TM2210200201	Acceptable		
2	ET2022232-1-02		TM2210200201	Acceptable	27	ET2022232-1-27		TM2210200201	Acceptable		
3	ET2022232-1-03		TM2210200201	Acceptable	28	ET2022232-1-28		TM2210200201	Acceptable		
4	ET2022232-1-04		TM2210200201	Acceptable	29	ET2022232-1-29		TM2210200201	Acceptable		
5	ET2022232-1-05		TM2210200201	Acceptable	30	ET2022232-1-30		TM2210200201	Acceptable		
6	ET2022232-1-06		TM2210200201	Acceptable	31	ET2022232-1-31		TM2210200201	Acceptable		
7	ET2022232-1-07		TM2210200201	Acceptable	32	ET2022232-1-32		TM2210200201	Acceptable		
8	ET2022232-1-08		TM2210200201	Acceptable	33	ET2022232-1-33		TM2210200201	Acceptable		
9	ET2022232-1-09		TM2210200201	Acceptable	34	ET2022232-1-34		TM2210200201	Acceptable		
10	ET2022232-1-10		TM2210200201	Acceptable	35	ET2022232-1-35		TM2210200201	Acceptable		
11	ET2022232-1-11		TM2210200201	Acceptable	36	ET2022232-1-36		TM2210200201	Acceptable		
12	ET2022232-1-12		TM2210200201	Acceptable	37	ET2022232-1-37		TM2210200201	Acceptable		
13	ET2022232-1-13		TM2210200201	Acceptable	38	ET2022232-1-38		TM2210200201	Acceptable		
14	ET2022232-1-14		TM2210200201	Acceptable	39	ET2022232-1-39		TM2210200201	Acceptable		
15	ET2022232-1-15		TM2210200201	Acceptable	40	ET2022232-1-40		TM2210200201	Acceptable		
16	ET2022232-1-16		TM2210200201	Acceptable							
17	ET2022232-1-17		TM2210200201	Acceptable							
18	ET2022232-1-18		TM2210200201	Acceptable							
19	ET2022232-1-19		TM2210200201	Acceptable							
20	ET2022232-1-20		TM2210200201	Acceptable							
21	ET2022232-1-21		TM2210200201	Acceptable							
22	ET2022232-1-22		TM2210200201	Acceptable							
23	ET2022232-1-23		TM2210200201	Acceptable							
24	ET2022232-1-24		TM2210200201	Acceptable							
25	ET2022232-1-25		TM2210200201	Acceptable							

Sketch:

UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam.Stage: After heat treatment	Calibration Block:CSK IA	 Level as per UT II	 Level as per UT II
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5P φ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration date :2022.9.10	Test Gain:20db + 5 db		
Equipment Due date :2023.9.9			



C&W International Fabricators

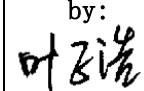
Magnetic Particle Inspection Report

Serial No. :		ET2022232-1-01... 40		PO# :		ET2022232		Date:		2022-11-05		
Part No:				API Monogram:		YES		Report#:		20221105		
Specification:		API Spec 6A/ ASTM E709		Material:		4130 75K per ASTM A29						
Description:		BLIND FLANGE 7 1/16" 15M EE L-U PSL3 PR1							Qty:		40 EA	
Item	S/N		Heat Lot No.	Result	Item	S/N		Heat Lot No.	Result			
1	ET2022232-1-01		TM2210200201	Acceptable	26	ET2022232-1-26		TM2210200201	Acceptable			
2	ET2022232-1-02		TM2210200201	Acceptable	27	ET2022232-1-27		TM2210200201	Acceptable			
3	ET2022232-1-03		TM2210200201	Acceptable	28	ET2022232-1-28		TM2210200201	Acceptable			
4	ET2022232-1-04		TM2210200201	Acceptable	29	ET2022232-1-29		TM2210200201	Acceptable			
5	ET2022232-1-05		TM2210200201	Acceptable	30	ET2022232-1-30		TM2210200201	Acceptable			
6	ET2022232-1-06		TM2210200201	Acceptable	31	ET2022232-1-31		TM2210200201	Acceptable			
7	ET2022232-1-07		TM2210200201	Acceptable	32	ET2022232-1-32		TM2210200201	Acceptable			
8	ET2022232-1-08		TM2210200201	Acceptable	33	ET2022232-1-33		TM2210200201	Acceptable			
9	ET2022232-1-09		TM2210200201	Acceptable	34	ET2022232-1-34		TM2210200201	Acceptable			
10	ET2022232-1-10		TM2210200201	Acceptable	35	ET2022232-1-35		TM2210200201	Acceptable			
11	ET2022232-1-11		TM2210200201	Acceptable	36	ET2022232-1-36		TM2210200201	Acceptable			
12	ET2022232-1-12		TM2210200201	Acceptable	37	ET2022232-1-37		TM2210200201	Acceptable			
13	ET2022232-1-13		TM2210200201	Acceptable	38	ET2022232-1-38		TM2210200201	Acceptable			
14	ET2022232-1-14		TM2210200201	Acceptable	39	ET2022232-1-39		TM2210200201	Acceptable			
15	ET2022232-1-15		TM2210200201	Acceptable	40	ET2022232-1-40		TM2210200201	Acceptable			
16	ET2022232-1-16		TM2210200201	Acceptable								
17	ET2022232-1-17		TM2210200201	Acceptable								
18	ET2022232-1-18		TM2210200201	Acceptable								
19	ET2022232-1-19		TM2210200201	Acceptable								
20	ET2022232-1-20		TM2210200201	Acceptable								
21	ET2022232-1-21		TM2210200201	Acceptable								
22	ET2022232-1-22		TM2210200201	Acceptable								
23	ET2022232-1-23		TM2210200201	Acceptable								
24	ET2022232-1-24		TM2210200201	Acceptable								
25	ET2022232-1-25		TM2210200201	Acceptable								

Sketch/Inspection Coverage:

Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface

Evaluation & Disposition : Found to be satisfactory.

Equipment	CJD -9000	MT Code	ASTM E709	Examined BY:  Level as per MT II	Approved by:  Level as per MT II
Test Method	Fulcrum [] Cable1 [✓]	Particle Type	Fluorescence Wet		
Exam. Stage	Rough After Ra ≤ 6.3μm	Test Piece	A1-30/100		
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1		
Concentration	0.3ml/100ml	UV-Light Intensity	≥1000Uw/C m²		



C&W International Fabricators

REPORT INDEX

Purchase Order: **ET2022213-2**

Quantity: **20 EA**

Shipment No. :

Shipment Date:

Activity No.	Characteristics	Reference Page
1.1	BLIND FLANGE 3 1/16" 10M WITH HUB	Page-2
1.1.1	Metallurgical Test Certificate	Page-2
1.1.2	Mechanical Testing	Page-2
1.1.3	Chemical Testing	Page-2
1.1.4	Heat Treatment	Page-2
2.1	Hardness Test	Page-3
2.2	Ultrasonic Testing	Page-4
2.3	Magnetic Particle Inspection Report	Page-5



C&W International Fabricators

METALLURGICAL TEST CERTIFICATE

Serial No.:	ET2022213-2-01...20	PO#:	ET2022213	Date:	2022-11-22							
Part No:		API Monogram:	YES	Report#:	20221122							
Specification:	API Spec 6A/ ASTM A370	Material:	4130 75K per ASTM A29									
Description:	BLIND FLANGE 3 1/16" 10M WITH HUB EE L-U PSL3 PR1			Qty:	20 EA							
TEST CONDITION												
Test Bar Size:	QTC, 4" x 4" x 8"		Bar Di:	12.7 mm (0.5")								
Melt Practice	EF + LF + VD		Reduction Ratio Min:	4:1								
Yield Stress	0.2% offset		Gauge Length	50.8mm								
CHEMICAL COMPOSITION												
Mill No.:	Qty	Test No.	C	Mn	Si	S	P	Ni	Cu	Mo	Cr	V
Spec Min			0.28	0.40	0.15	/	/	/	/	0.15	0.80	/
Spec Max			0.33	0.60	0.35	0.025	0.025	0.50	0.35	0.25	1.10	0.30
22701262	20	1	0.30	0.52	0.23	0.003	0.009	0.02	0.03	0.17	0.98	0.003
MECHANICAL COMPOSITION												
Heat Lot No.	QTY.	Test No.	Yield Strength (KPsi)	Tensile Strength (KPsi)	Elongation%	Reduction of Area%	Hardness HB	10mm X 10mm Charpy J (ft. lb) At -46° c	Minimum Lateral	Shear Fraction		
Spec Min			75K	95K	18.0	35.0	197	27J				
Spec Max			/	/	/	/	235	/				
TM2210280301	20	1	81.5 K	103.5K	51.5	63.7	221	53;44;58				
HEAT TREATMENT												
Forgings:	4:1		Test Bar (OTC)									
Normalized:	900°C 3 HRS		Normalized:	900°C 3 HRS								
Austenitized:	880°C 3 HRS		Austenitized:	880°C 3 HRS								
Quenchant:	WATER		Quenchant:	WATER								
Start Temp:	31 °C		Start Temp:	31 °C								
End Temp:	39 °C		End Temp:	39 °C								
Temper:	660°C 5 HRS AIR		Temper:	660°C 5 HRS AIR								
We hereby certify that all test results and procedure information contained herein are correct and true as in contained the records of the company and also no welding or weld repair was performed on subject parts.												
Inspected by:	张金龙		Approved by:	徐根								



Hardness Test Report

[illegible]

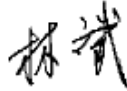
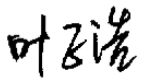


C&W International Fabricators

ULTRASONIC EXAMINATION REPORT

Serial No. :		ET2022213-2-01...20		PO# :		ET2022213		Date:		2022-11-22	
Part No:				API Monogram:		YES		Report#:		20221122	
Specification:		API Spec 6A/ ASTM A388		Material:		4130 75K per ASTM A29					
Description:		BLIND FLANGE 3 1/16" 10M WITH HUB EE L-U PSL3 PR1						Qty:		20 EA	
Item	S/N		Heat Lot No.	Result	Item	S/N		Heat Lot No.	Result		
1	ET2022213-2-01		TM2210280301	Acceptable							
2	ET2022213-2-02		TM2210280301	Acceptable							
3	ET2022213-2-03		TM2210280301	Acceptable							
4	ET2022213-2-04		TM2210280301	Acceptable							
5	ET2022213-2-05		TM2210280301	Acceptable							
6	ET2022213-2-06		TM2210280301	Acceptable							
7	ET2022213-2-07		TM2210280301	Acceptable							
8	ET2022213-2-08		TM2210280301	Acceptable							
9	ET2022213-2-09		TM2210280301	Acceptable							
10	ET2022213-2-10		TM2210280301	Acceptable							
11	ET2022213-2-11		TM2210280301	Acceptable							
12	ET2022213-2-12		TM2210280301	Acceptable							
13	ET2022213-2-13		TM2210280301	Acceptable							
14	ET2022213-2-14		TM2210280301	Acceptable							
15	ET2022213-2-15		TM2210280301	Acceptable							
16	ET2022213-2-16		TM2210280301	Acceptable							
17	ET2022213-2-17		TM2210280301	Acceptable							
18	ET2022213-2-18		TM2210280301	Acceptable							
19	ET2022213-2-19		TM2210280301	Acceptable							
20	ET2022213-2-20		TM2210280301	Acceptable							

Sketch:

UT Code:ASTM A388	Technique:Straight/Contact	Examined BY:	Approved by:
Exam.Stage: After heat treatment	Calibration Block:CSK IA		
Equipment:CTS-2020	Couplant: OIL		
Probe Used :2.5P φ10	Acceptance Criteria: API 6A PSL 3		
Equipment Calibration date :2022.9.10	Test Gain:20db + 5 db		
Equipment Due date :2023.9.9		Level as per UT II	Level as per UT II



C&W International Fabricators

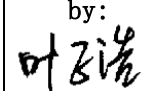
Magnetic Particle Inspection Report

Serial No. :		ET2022213-2-01...20		PO# :		ET2022213		Date:		2022-11-22	
Part No:				API Monogram:		YES		Report#:		20221122	
Specification:		API Spec 6A/ ASTM E709		Material:		4130 75K per ASTM A29					
Description:		BLIND FLANGE 3 1/16" 10M WITH HUB EE L-U PSL3 PRI						Qty:		20 EA	
Item	S/N		Heat Lot No.	Result	Item	S/N		Heat Lot No.	Result		
1	ET2022213-2-01		TM2210280301	Acceptable							
2	ET2022213-2-02		TM2210280301	Acceptable							
3	ET2022213-2-03		TM2210280301	Acceptable							
4	ET2022213-2-04		TM2210280301	Acceptable							
5	ET2022213-2-05		TM2210280301	Acceptable							
6	ET2022213-2-06		TM2210280301	Acceptable							
7	ET2022213-2-07		TM2210280301	Acceptable							
8	ET2022213-2-08		TM2210280301	Acceptable							
9	ET2022213-2-09		TM2210280301	Acceptable							
10	ET2022213-2-10		TM2210280301	Acceptable							
11	ET2022213-2-11		TM2210280301	Acceptable							
12	ET2022213-2-12		TM2210280301	Acceptable							
13	ET2022213-2-13		TM2210280301	Acceptable							
14	ET2022213-2-14		TM2210280301	Acceptable							
15	ET2022213-2-15		TM2210280301	Acceptable							
16	ET2022213-2-16		TM2210280301	Acceptable							
17	ET2022213-2-17		TM2210280301	Acceptable							
18	ET2022213-2-18		TM2210280301	Acceptable							
19	ET2022213-2-19		TM2210280301	Acceptable							
20	ET2022213-2-20		TM2210280301	Acceptable							

Sketch/Inspection Coverage:

Fluorescent magnetic particle inspection was performed on all accessible wetted/sealing surface

Evaluation & Disposition : Found to be satisfactory.

Equipment	CJD -9000	MT Code	ASTM E709	Examined BY:  Level as per MT II	Approved by:  Level as per MT II
Test Method	Fulcrum [] Cablel [✓]	Particle Type	Fluorescence Wet		
Exam. Stage	Rough After Ra ≤ 6.3μm	Test Piece	A1-30/100		
Magnetizing time	1-3S	Circular AMPS/Turns	900A/1		
Concentration	0.3ml/100ml	UV-Light Intensity	≥1000Uw/C m²		