



پژوهش و پالایش رادمان

Project title:

**IGAT-6
CONNECTION TO BGCS#2,3,4 &
START-UP OF BGCS#2,3**

Doc. Title:

WPS FOR SWEET GAS



PROJ.	PHASE	UNIT	DIS	DOC	SERIAL	REV
KASP	DE	GRL	PI	PCJ	0002	00

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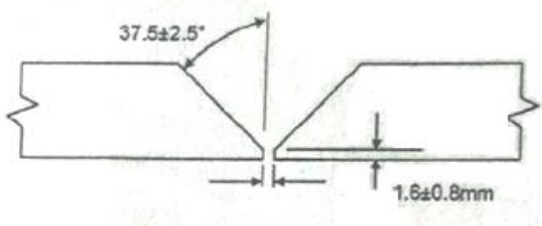
WPS FOR SWEET GAS

00	IFC	1395/04/30	A.Shariatifar	M.Darabi	A.Malekmohammadi
Rev.	Issued for	Date	Prepared	Checked	Approved

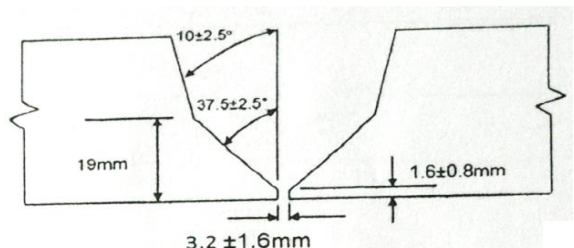
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	Doc. Title: WPS FOR SWEET GAS						
	PROJ.	PHASE	UNIT	DIS	DOC	SERIAL	
KASP	DE	GRL	PI	PCJ	0002	00	Page 2 of 7

Revision Sheet																	
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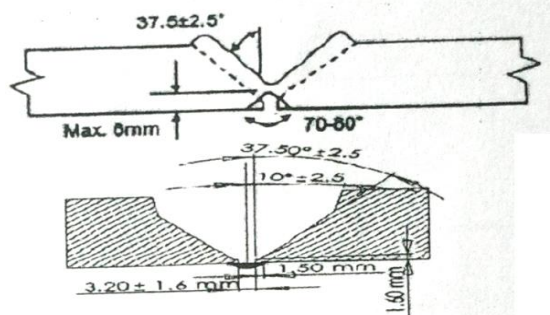
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	Doc. Title: WPS FOR SWEET GAS						
	PROJ.	PHASE	UNIT	DIS	DOC	SERIAL	
KASP	DE	GRL	PI	PCJ	0002	00	Page 3 of 7

WPS NO: 001 REFERENCE PQR REPORT NO: CODE: API 1104 WELDING PROCESS: SMAW TYPE: MANUAL			JOINTS (QW-402) JOINT DESIGN: V JOINT BACKING: N/A BACKING MATERIAL OR TYPE: N/A																																																			
BASE METAL (QW-403) P.NO:1 G.NO:1,2 TO P.NO:1 G.NO: 1,2 MATERIAL SPECIFICATION:(TYPE AND GRADE) A234 GR.WPB API 5L GR.B, X60 TO A860 GR.WPHY-60,65,70 API 5L GR.B, X60 THICKNESS RANGE: GROOVE < 11.91 mm FILLET N/A DIAMETER RANGE: (IN) 2 ~ 20																																																						
FILLER METAL (QW-404) F NO: 3,4 A NO: 1 SFA SPECIFICATION: A 5.1 AWS CLASSIFICATION: E6010,E7018 SIZE OF FILLER METAL: SEE TABLE BELOW DEPOSITE THICKNESS QUALIFIES UP TO 31.75 TRADE NAME: AS TABLE BELOW			ELECTRICAL CHARACTERISTICE (QW-409) CURRENT AC OR DC: SEE TABLE BELOW POLARITY,AMPS&VOLTS(RANGE): SEE TABLE BELOW TUNGSTEN ELECTROD SIZE & TYPE: N/A TRANSFER MODE: N/A WIRE FEED SPEED: N/A																																																			
POSITION (QW-405) POSITION: 6G WELDING PROGRESSION: UP-HILL			TECHNIQUE (QW-410) STRINGS OR WEAVE BEAD: BOTH INITIAL AND INTERPASS CLEANING METHOD: GRINDING AND / OR BRUSHING BOTH METHOD OF BACK GOGING N/A MULTI OR SINGLE PASS: MULTIPLE OSCILLATION: 3*φelectrode SINGLE OR MULTI ELECTRODES: SINGLE PEENING: N/A																																																			
PREHEAT&INTERPASS TEMP.(QW-406) PREHEAT TEMP: (min) 100 °C INTERPASS TEMP: 150-250 °C PREHEAT MAINTENANCE: N/A			GAS (QW-408) <table border="1"> <tr> <td>PERCENT COMBUSTION</td> <td>GAS</td> <td>MIXTURE</td> <td>FLOW RATE</td> </tr> <tr> <td></td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> </table>			PERCENT COMBUSTION	GAS	MIXTURE	FLOW RATE		N/A	N/A	N/A																																									
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ELECTRODS: <table border="1"> <tr> <th rowspan="2">WELD LAYERS</th> <th colspan="2">FILER METAL</th> <th colspan="2">CURRENT</th> <th rowspan="2">VOLT RANGE(V)</th> <th rowspan="2">NO OF WELDERS</th> <th rowspan="2">TRAVEL SPEED RANGE</th> <th rowspan="2">Electrod brand</th> </tr> <tr> <th>CLASS</th> <th>DIA(mm)</th> <th>TYPE POLAR</th> <th>AMP RANGE</th> </tr> <tr> <td>1ST</td> <td>E6010</td> <td>2.5 , 3.2</td> <td>DCEP</td> <td>75-160</td> <td>20-25</td> <td>2</td> <td>15-20</td> <td>KISWEL</td> </tr> <tr> <td>2ND</td> <td>E7018</td> <td>2.5 , 3.2</td> <td>DCEP</td> <td>95-130</td> <td>22-25</td> <td>2</td> <td>15-20</td> <td>AMA</td> </tr> <tr> <td>FILL</td> <td>E7018</td> <td>3.2 , 4 , 5</td> <td>DCEP</td> <td>120-200</td> <td>22-25</td> <td>2</td> <td>15-20</td> <td>AMA</td> </tr> <tr> <td>CAP</td> <td>E7018</td> <td>3.2 , 4</td> <td>DCEP</td> <td>120-170</td> <td>20-28</td> <td>2</td> <td>15-20</td> <td>AMA</td> </tr> </table>						WELD LAYERS	FILER METAL		CURRENT		VOLT RANGE(V)	NO OF WELDERS	TRAVEL SPEED RANGE	Electrod brand	CLASS	DIA(mm)	TYPE POLAR	AMP RANGE	1ST	E6010	2.5 , 3.2	DCEP	75-160	20-25	2	15-20	KISWEL	2ND	E7018	2.5 , 3.2	DCEP	95-130	22-25	2	15-20	AMA	FILL	E7018	3.2 , 4 , 5	DCEP	120-200	22-25	2	15-20	AMA	CAP	E7018	3.2 , 4	DCEP	120-170	20-28	2	15-20	AMA
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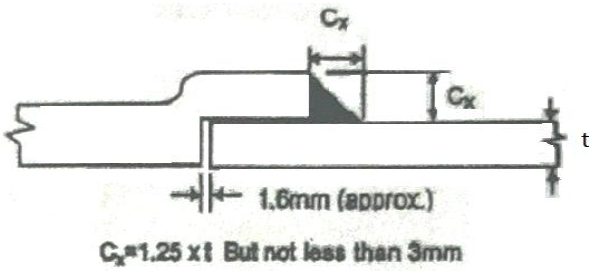
 پژوهش و پالایش رادمان	Project title: IGAT-6 CONNECTION TO BGCS#2,3,4 & START-UP OF BGCS#2,3						 شرکت ملی گاز ایران مهندسان مشاور
	Doc. Title: WPS FOR SWEET GAS						
	PROJ.	PHASE	UNIT	DIS	DOC	SERIAL	
KASP	DE	GRL	PI	PCJ	0002	00	Page 4 of 7

WPS NO: 002 REFERENCE PQR REPORT NO: CODE: API 1104 WELDING PROCESS: SMAW TYPE: MANUAL	JOINTS (QW-402) JOINT DESIGN: V JOINT BACKING: N/A BACKING MATERIAL OR TYPE: N/A																																																	
BASE METAL (QW-403) P.NO:1 G.NO:3 TO P.NO:1 G.NO: 1,2,3 MATERIAL SPECIFICATION:(TYPE AND GRADE) API 5L GR.X70 TO API 5L GR.X70 A860 GR.WPHY-70 API 5L GR.X65 TO API 5L GR.X65 A860 WPHY-65 THICKNESS RANGE: 28.57mm TO 31.75mm DIAMETER RANGE: (IN) 56																																																		
FILLER METAL (QW-404) F NO: 3,4 A NO: 1 SFA SPECIFICATION: A 5.1, A5.5 AWS CLASSIFICATION: E6010,E8018G SIZE OF FILLER METAL: SEE TABLE BELOW DEPOSITE THICKNESS QUALIFIES UP TO 31.75 TRADE NAME: AS TABLE BELOW	ELECTRICAL CHARACTERISTICE (QW-409) CURRENT AC OR DC: SEE TABLE BELOW POLARITY,AMPS&VOLTS(RANGE): SEE TABLE BELOW TUNGSTEN ELECTROD SIZE & TYPE: N/A TRANSFER MODE: N/A WIRE FEED SPEED: N/A																																																	
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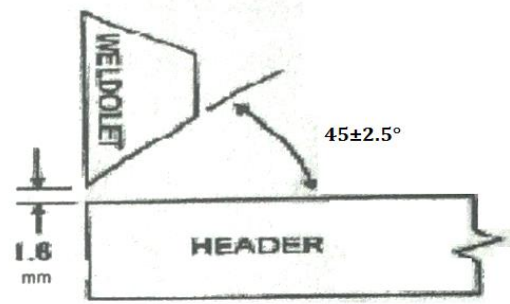
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	PROJ.	PHASE	UNIT	DIS	DOC	SERIAL	
KASP	DE	GRL	PI	PCJ	0002	00	Page 5 of 7

WPS NO: 003 REFERENCE PQR REPORT NO: CODE: API 1104 WELDING PROCESS: SMAW TYPE: MANUAL	JOINTS (QW-402) JOINT DESIGN: V JOINT BACKING: N/A BACKING MATERIAL OR TYPE: N/A																																																										
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WPS NO: 004 REFERENCE PQR REPORT NO: CODE: API 1104 WELDING PROCESS: SMAW TYPE: MANUAL				JOINTS (QW-402) JOINT DESIGN: FILLET JOINT BACKING: N/A BACKING MATERIAL OR TYPE: N/A																															
BASE METAL (QW-403) P.NO:1 G.NO:1,2 TO P.NO:1 G.NO: 1,2 MATERIAL SPECIFICATION:(TYPE AND GRADE) A105 TO API 5L GR.B THICKNESS RANGE: FILLET ALL DIAMETER RANGE: (IN) ½" ~ 1.½"																																			
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	Project title: IGAT-6 CONNECTION TO BGCS#2,3,4 & START-UP OF BGCS#2,3						
	Doc. Title: WPS FOR SWEET GAS						
	PROJ.	PHASE	UNIT	DIS	DOC	SERIAL	
KASP	DE	GRL	PI	PCJ	0002	00	Page 7 of 7

WPS NO: 005 REFERENCE PQR REPORT NO: CODE: API 1104 WELDING PROCESS: SMAW TYPE: MANUAL	JOINTS (QW-402) JOINT DESIGN: GROOVE BACKING: N/A BACKING MATERIAL OR TYPE: N/A																																														
BASE METAL (QW-403) P.NO:1 G.NO:1,2 TO P.NO:1 G.NO: 1,2 MATERIAL SPECIFICATION:(TYPE AND GRADE) API 5L GR. X60, X65, X70 TO A860 WPHY-65, 70 THICKNESS RANGE: 3.91 TO 12.7 DIAMETER RANGE: (IN) ALL																																															
FILLER METAL (QW-404) F NO: 3,4 A NO: 1 SFA SPECIFICATION: A 5.1 AWS CLASSIFICATION: E6010,E8018 SIZE OF FILLER METAL: SEE TABLE BELOW DEPOSITE THICKNESS QUALIFIES UP TO 31.75 TRADE NAME: AS TABLE BELOW	ELECTRICAL CHARACTERISTIC (QW-409) CURRENT AC OR DC: SEE TABLE BELOW POLARITY,AMPS&VOLTS(RANGE): SEE TABLE BELOW TUNGSTEN ELECTROD SIZE & TYPE: N/A TRANSFER MODE: N/A WIRE FEED SPEED: N/A																																														
POSITION (QW-405) POSITION: 5G WELDING PROGRESSION: UP-HILL	TECHNIQUE (QW-410) STRINGS OR WEAVE BEAD: BOTH INITIAL AND INTERPASS CLEANING METHOD: GRINDING AND / OR BRUSHING BOTH METHOD OF BACK GOGING N/A MULTI OR SINGLE PASS: MULTIPLE SINGLE OR MULTI ELECTRODES: SINGLE PEENING: N/A																																														
PREHEAT&INTERPASS TEMP.(QW-406) PREHEAT TEMP: (min) 100 °C INTERPASS TEMP: 150-200 °C PREHEAT MAINTENANCE: N/A	GAS (QW-408) <table border="1"> <tr> <td>PERCENT COMBUSTION</td> <td>GAS</td> <td>MIXTURE</td> <td>FLOW RATE</td> </tr> <tr> <td></td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> </table>	PERCENT COMBUSTION	GAS	MIXTURE	FLOW RATE		N/A	N/A	N/A																																						
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