



Toase-eh Park Sanati Gohar Ofogh
Petrochemical Co.
**CONCEPTUAL, BASIC and DETAIL DESIGN
ENGINEERING OF STYRENE PARK OFFSITE**



ARKAN SANAT PAYDAR
Procurement & Construction

Document Title:
Weld Map For Steel Structure

Rev. R0

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Weld Map For Steel Structure

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Rev.	Date	Status	Description	Prepared	Checked	Approved	AC



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2	1	WELD DETAIL NO.	
		PREPARATION	
ST 37-2	ST 37-2	MATERIAL GRADE	
THK. > 16 mm	A	THICK	
GMAW	GMAW	WELD PROCESS	
ROOT AND FILL	ROOT AND FILL	WELDING LAYER	
AWS A5.18 ER 70S-6(1.2mm)	AWS A5.18 ER 70S-6(1.2mm)	WELDING CONSUMABLE	
220-268	190-220	AMPERES	WELDING TECHNIQUE
18-32	18-32	VOLT	
25-60	25-60	TRAVEL SPEED(cm/min)	
780	750	HEAT INPUT (j/mm)	
DCEP	DCEP	POLARITY	
1G,2G,3G	1F & 2F	POSITION	
WP002	WP001	WPS	
SSS-PQR002A	SSS-PQR001A	SUPPORTING PQR	
Min 15°C For T≤38 & 65°C For 38<T≤65	Min 10°C For T≤38 & 65°C For 38<T≤65	MINIMUM PREHEAT TEMP.	HEAT TREATMENT
65° C	250° C	MAXIMUM PREHEAT TEMP.	
300° C	300° C	MAXIMUM Inter Pass Temp.	
N.A	N.A	POST WELD HEAT TREATMENT	
According to AWS D1.1 (2015)	According to AWS D1.1 (2015)	REMARK	



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4	3	WELD DETAIL NO.							
	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>Root Opening</td> <td>+2, -0</td> </tr> <tr> <td>Root Face</td> <td>+2, -0</td> </tr> <tr> <td>Groove Angle</td> <td>+10', -0"</td> </tr> </table>	Root Opening	+2, -0	Root Face	+2, -0	Groove Angle	+10', -0"	PREPARATION	
Root Opening	+2, -0								
Root Face	+2, -0								
Groove Angle	+10', -0"								
ST 37-2	ST 37-2	MATERIAL GRADE							
6mm < THK. ≤ 16 mm	6mm < THK. ≤ 16 mm	THICKNESS							
GMAW	GMAW	WELD PROCESS							
ROOT AND FILL	ROOT AND FILL	WELDING LAYER							
AWS A5.18 ER 70S-6(1.2mm)	AWS A5.18 ER 70S-6(1.2mm)	WELDING CONSUMABLE							
215-264	210-255	AMPERES	WELDING TECHNIQUE						
18-32	18-32	VOLTS							
25-60	25-60	TRAVEL SPEED (cm/min)							
840	820	HEAT INPUT (j/m)							
DCEP	DCEP	POLARITY							
1G , 2G , 3G	1G , 2G , 3G	POSITION							
WP004	WP003	WPS NO							
SSS-PQR004A	SSS-PQR002A	SUPPORTING PQR							
10°C For T≤38 & 65°C For 38<T≤65	10°C For T≤38 & 65°C For 38<T≤65	MINIMUM PREHEAT TEMP.	HEAT TREATMENT						
250° C	250° C	MAXIMUM PREHEAT							
300° C	300° C	MAXIMUM Inter Pass							
N.A	N.A	POST WELD HEAT TREATMENT							
According to AWS D1.1	According to AWS D1.1	REMARK							



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6	5	WELD DETAIL NO.															
<p>REINFORCEMENT 1/32 TO 1/8 NO TOLERANCE</p>	<p>BACKGOUGE</p> <table border="1" style="font-size: small;"> <tr> <td>Root Opening</td> <td>Tolerances</td> </tr> <tr> <td>Root Face</td> <td>R = 0 to 3</td> </tr> <tr> <td>Groove Angle</td> <td>l = 0 to 3</td> </tr> <tr> <td></td> <td>α = β = 60°</td> </tr> <tr> <td></td> <td>+2, -0</td> </tr> <tr> <td></td> <td>+2, -0</td> </tr> <tr> <td></td> <td>+10°, -0°</td> </tr> </table>	Root Opening	Tolerances	Root Face	R = 0 to 3	Groove Angle	l = 0 to 3		α = β = 60°		+2, -0		+2, -0		+10°, -0°	PREPARATION	
Root Opening	Tolerances																
Root Face	R = 0 to 3																
Groove Angle	l = 0 to 3																
	α = β = 60°																
	+2, -0																
	+2, -0																
	+10°, -0°																
ST 37-2	ST 37-2	MATERIAL GRADE															
THK. ≤ 6 mm	THK. > 16 mm	THICKN															
GMAW	GMAW	WELD PROCESS															
ROOT AND FILL	ROOT AND FILL	WELDING LAYER															
AWS A5.18 ER 70S-6(1.2mm)	AWS A5.18 ER 70S-6(1.2mm)	WELDING CONSUMABLE															
210-280	220-268	AMPERES	WELDING TECHNIQUE														
18-32	18-32	VOLTS															
25-60	25-60	TRAVEL SPEED (cm/min)															
780	780	HEAT INPUT (j/mm)															
DCEP	DCEP	POLARITY															
1G , 2G	1G , 2G, 3G	POSITION															
WP06	WP05	WPS															
SSS-PQR003A	SSS-PQR004A	PQR															
Min 10°C For T≤38 & 65°C For 38<T≤65	Min 15°C For T≤38 & 65°C For 38<T≤65	MINIMUM PREHEAT TEMP.	HEAT TREATMENT														
250° C	250° C	MAXIMUM PREHEAT TEMP.															
300° C	300° C	MAXIMUM Inter Pass Temp															
N.A	N.A	POST WELD HEAT TREATMENT															
According to AWS D1.1 (2015)	According to AWS D1.1 (2015)	REMARK															



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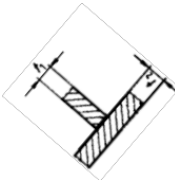


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-	7	WELD DETAIL NO.	
		PREPARATION	
	ST 37-2	MATERIAL GRADE	
	$10 < \text{Thk.} \leq 40$	THICKN	
	SAW	WELD PROCESS	
	1~n	WELDING LAYER	
	A-5.17 F7AZ-EM 12	WELDING CONSUMABLE	
	360-570	AMPERES	WELDING TECHNIQ UE
	28-35	VOLTS	
	20-40	TRAVEL SPEED (cm/min)	
	2852	HEAT INPUT (j/mm)	
	DCEP	POLARITY	
	1F	POSITION	
	WP007	WPS	
	SSS- P.Q.R No.: 5329-2	PQR	
	Min 10°C For T≤38 & 65°C	MINIMUM PREHEAT TEMP.	HEAT TREATMENT
	250° C	MAXIMUM PREHEAT TEMP.	
	300° C	MAXIMUM Inter Pass Temp	
	N.A	POST WELD HEAT TREATMENT	
	According to AWS D1.1 (2015)	REMARK	