

SAUDI ARABIAN OIL COMPANY

TABLE FOR FIELD DETERMINATION OF HEAT INPUT VALUE, H,
FOR WELDING DONE WITH MANUAL ELECTRODES

WELD BEAD LENGTH IN INCHES PER INCH OF ELECTRODE BURNED OFF	ELECTRODE DIAMETER, INCHES	HEAT INPUT, KJ/IN							
		15	20	25	30	35	40	45	50
	3/32	0.53 (0.62)	0.40 (0.46)	0.32 (0.37)	0.27 (0.31)	0.23 (0.26)	- (0.23)	- (-)	- (-)
	1/8	0.87 (1.01)	0.65 (0.76)	0.52 (0.60)	0.44 (0.50)	0.37 (0.43)	0.33 (0.38)	0.29 (0.34)	0.26 (0.30)
	5/32	1.35 (1.57)	1.01 (1.18)	0.81 (0.94)	0.67 (0.79)	0.58 (0.67)	0.50 (0.59)	0.45 (0.52)	0.40 (0.47)
	3/16	2.12 (2.46)	1.59 (1.84)	1.27 (1.48)	1.06 (1.23)	0.91 (1.05)	0.79 (0.92)	0.71 (0.82)	0.64 (0.74)
	1/4	- (-)	2.53 (2.99)	2.02 (2.40)	1.68 (2.00)	1.44 (1.71)	1.26 (1.50)	1.12 (1.33)	1.01 (1.20)

NOTE: RATIOS IN PARENTHESES ARE FOR TYPE E-XX18 LOW HYDROGEN ELECTRODES ONLY. THE OPEN RATIOS ARE FOR CELLULOSIC ELECTRODES AND FOR LOW HYDROGEN ELECTRODES OF THE TYPES E-XX15 AND E-XX16.

EXAMPLE: A WELDER USING A 1/8 INCH DIAMETER CELLULOSIC ELECTRODE LAYS DOWN A WELD BEAD 6.5 INCHES LONG FOR EVERY 10 INCHES OF ELECTRODE BURNED OFF. THE RATIO OF WELD BEAD LENGTH PER INCH OF ELECTRODE BURNED IS $6.5/10.0=0.65$. FROM THE TABLE IT IS SEEN THAT THE HEAT INPUT, H, IS 20 KJ/IN. IF THE ELECTRODE HAD BEEN A TYPE E-7018, THE HEAT INPUT WOULD HAVE BEEN APPROXIMATELY 23 KJ/IN (BY INTERPOLATION).

NOTE:

1. GENERAL REVISION OF AD-036451 & AD-036452 THAT COMBINES THESE TWO, FORMERLY SEPARATE DRAWINGS INTO ONE DRAWING.
CHANGED DRAWING SIZE FROM "D" TO "E".

APPD.			
CERT.			
CHKD.			
DESCRIPTION	DRAWING DIGITIZED INTO CADD DATABASE WITHOUT CHANGES		
JO/EWO			
BY		ESSD	JVV
DATE			JUN92
NO.			03
REVISIONS			
DRAWN BY _____ DATE _____			
CHKD. BY _____			
OPRG. DEPT.			
BY _____ DATE _____			
ENG. DEPT.			
BY _____ DATE _____			
APP'D. FOR CONSTR.			
BY _____ DATE _____			
CERTIFIED			
BY _____ DATE _____			
THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION OR FOR ORDERING MATERIAL UNTIL CERTIFIED AND DATED.			

DRAWING TITLE	PLANT NO.	INDEX	DRAWING NO.	SHT. NO.	REV. NO.
PREHEAT LEVELS FOR WELDING CARBON STEELS (INCLUDES LOW HYDROGEN PROCESSES) STD. DWG.	990	W	AE-036451	004	03
	JO/EWO-				