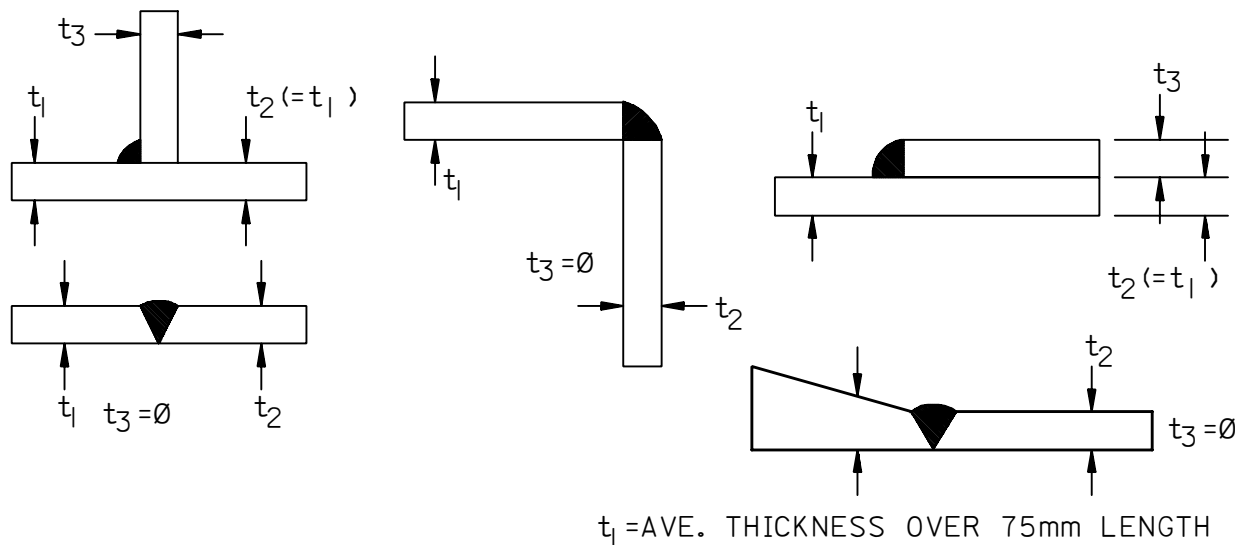


SAUDI ARABIAN OIL COMPANY

DETERMINING THE COMBINED THICKNESS PARAMETER (C.T.)

FOR VARIOUS JOINT GEOMETRIES: IN ALL CASES, $C.T. = t_1 + t_2 + t_3$



TYPICAL HEAT INPUT VALUES FOR VARIOUS WELDING PROCESSES.
FOR USE WHEN THE ACTUAL ON-SITE VALUES ARE NOT KNOWN.

NOTE: WIDE VARIATIONS ARE POSSIBLE AND DEPEND PRIMARILY ON
THE INDIVIDUAL WELDERS INVOLVED.

WELDING PROCESS	HEAT INPUT, KJ/cm
CELLULOSIC ELECTRODES (EG. E-6010, E-7010, HYP, ETC.)	($\phi \leq 3.2\text{mm}$) 6 ($\phi \geq 4.0\text{mm}$) 8
LOW HYDROGEN ELECTRODES (EG. E-7018, E-8016, ETC.)	($\phi \leq 3.2\text{mm}$) 8 ($\phi \geq 4.0\text{mm}$) 10
M.I.G.	8
T.I.G.	6
SUBMERGED ARC	(ROOT PASS) 10 (ALL OTHERS) 20
FLUX-CORED ARC	10

CARBON EQUIVALENT VALUES FOR USE WHEN ACTUAL VALUES ARE NOT KNOWN.

PIPE: $CE = 0.42$

ASTM STEELS: USE MAXIMUM C.E. ALLOWABLE FOR THE GIVEN GRADE.
IF UNKNOWN, USE C.E. = 0.50.

NOTES:

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

APPD.			
CERT.			
CHKD.			
DESCRIPTION	DRAWING DIGITIZED INTO CADD DATABASE WITHOUT CHANGES		
J.O./EWO			
BY		ESSD	JVV
DATE		JUN92	
NO.		02	
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)	990	W	AE-036451	007	02
STD. DWG.	J.O./EWO-				