

TABLE PW-39

## MANDATORY REQUIREMENTS FOR POSTWELD HEAT TREATMENT OF PRESSURE PARTS AND ATTACHMENTS

Material	Minimum Holding Temperature, °F (°C)	Minimum Holding Time at Normal Temperature for Weld Thickness (Nominal)		
		Up to 2 in. (50 mm)	Over 2 in. (50 mm) to 5 in. (125 mm)	Over 5 in. (125 mm)
P-No. 1 Group No. 1,2,3	1,100 (595)	1 hr/in. (2 min/mm), 15 min minimum	2 hr plus 15 min for each additional inch over 2 in. (50 mm)	2 hr plus 15 min for each additional inch (25 mm) over 2 in. (50 mm)

## GENERAL NOTES:

(a) Postweld heat treatment is not mandatory for P-No. 1 materials under the following conditions:

- (1) for circumferential butt welds in pressure parts with a nominal wall thickness of  $\frac{3}{4}$  in. (19 mm) or less at the joint
- (2) for fillet welds used on slip-on and socket welding flanges and fittings conforming to the rules of PW-41, when the following conditions are met:
  - (a) a fillet weld throat thickness of  $\frac{1}{2}$  in. (13 mm) or less, regardless of base metal thickness
  - (b) a minimum preheat of 200°F (95°C) when the thickness of a pressure part at the weld exceeds  $\frac{3}{4}$  in. (19 mm)

**TABLE UCS-56**  
**POSTWELD HEAT TREATMENT REQUIREMENTS FOR CARBON AND LOW ALLOY STEELS**

Material	Normal Holding Temperature, °F (°C), Minimum	Minimum Holding Time at Normal Temperature for Nominal Thickness [See UW-40(f)]		
		Up to 2 in. (50 mm)	Over 2 in. to 5 in. (50 mm to 125 mm)	Over 5 in. (125 mm)
P-No. 1 Gr. Nos. 1, 2, 3	1,100 (595)	1 hr/in. (25 mm), 15 min minimum	2 hr plus 15 min for each additional inch (25 mm) over 2 in. (50 mm)	2 hr plus 15 min for each additional inch (25 mm) over 2 in. (50 mm)
Gr. No. 4	NA	None	None	None

**NOTES:**

- (1) When it is impractical to postweld heat treat at the temperature specified in this Table, it is permissible to carry out the postweld heat treatment at lower temperatures for longer periods of time in accordance with Table UCS-56.1.
- (2) Postweld heat treatment is mandatory under the following conditions:
  - (a) for welded joints over 1½ in. (38 mm) nominal thickness;
  - (b) for welded joints over 1¼ in. (32 mm) nominal thickness through 1½ in. (38 mm) nominal thickness unless preheat is applied at a minimum temperature of 200°F (95°C) during welding;