

# Engineering Specification PS-144

## Temperature Limitations for Stem Packing Materials

### **Purpose:**

Provide a specification and reference document that addresses temperature limitations for stem packing materials during processing.

### **Scope:**

This specification extends to compression and O-ring style stem packing materials.

1. When processing shutoff valves that use compression type stem packing material the following temperature limitations should be observed:

Minimum Temperature =  $-40^{\circ}\text{F}$   
Maximum Temperature =  $500^{\circ}\text{F}$   
Dehydration Temperature =  $300^{\circ}\text{F}$  Max. (for eight hours)

2. When processing shutoff valves that use O-ring type stem packing material the following temperature limitations should be observed:

Minimum Temperature =  $-40^{\circ}\text{F}$   
Maximum Temperature =  $300^{\circ}\text{F}$   
Dehydration Temperature =  $300^{\circ}\text{F}$  Max. (for eight hours)

### **Important Processing Notes:**

1. When performing silver brazing operations to join copper tube to a shutoff valve or to join a valve spud to a shell, the following temperature and time limitations should be observed:

Stem packing may be exposed to:	$500^{\circ}\text{F}$ for 5 to 10 minutes Max.
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2. For shutoff valves with valve cores (P/N 16828) installed it is important to remove the valve core if any processing temperature is going to exceed  $275^{\circ}\text{F}$ .

3. Any processing where time at temperature results in dehydration in the stem thread area there may be a loss of lubrication (refrigeration oil) in internal cavities. It is important to replace this lubrication to prevent stem threads from seizing.

4. Tighten gland nut 1/4 turn after dehydration period.

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*Specification of Temperature Limitations for Stem Packing Materials*

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