

STANDARDIZING 34-37-65A
NOTICE

SUBJECT DETERMINING RELATIVE THERMAL EXPANSION
MATCH BETWEEN A GLASS AND #4 ALLOY

SUPERSEDES DATZ

Initially as a laboratory test prior to
stocking of parts made from C180S.

PROCEDURE

1. Prepare part for sealing by cleaning and firing according to regular schedule.
2. Bead the sealing area with O12 glass. A bead 1/16 to 1/8" thick and 1/4" long is desirable. Glass with a known thermal expansion curve should be used.
3. Anneal, using a temperature of from 425° to 435°C for 1 hr., with a cooling rate of 2°C./min.
4. Measure strain in bead at metal interface, holding the part with its axis perpendicular to that of the polariscope. O-Dichlorobenzene is a suitable immersion liquid.
5. Seal strain is measured as millimicrons retardation per cm. of glass path. The path length l is computed from $l^2 = b^2 - a^2$, where b is the outside diameter of the bead and a is the diameter of the metal part. For 39003 the central part of the conical sealing area should be used.
6. Seal strain should not exceed 40 millimicrons/cm.

STANDARDIZING SECTION
ENGINEERING DEPARTMENT

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★ INDICATES A CHANGE ☆ INDICATES AN ADDITION

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