NEW FROM EIMAC---

QUARTZ WINDOWS

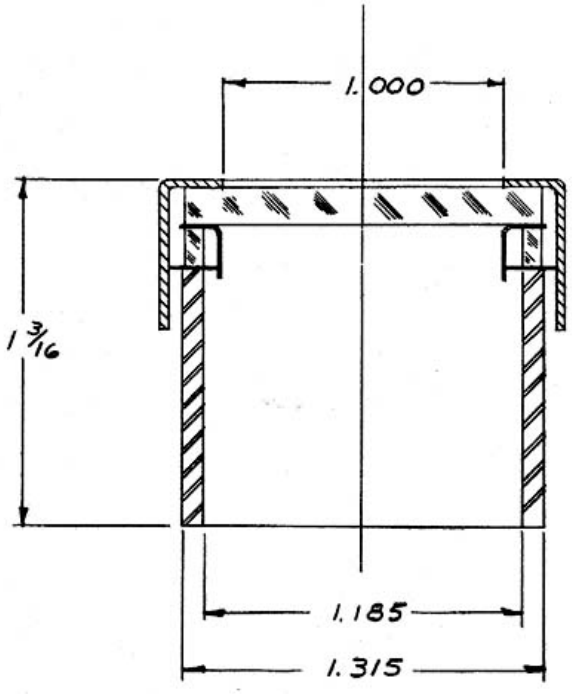
CA 8050 QUARTZ WINDOW

A reliable technique to produce a lasting vacuum-tight seal between quartz and metal components of substantial size has now been developed and proved at Eimac. This sealing technique makes possible the product-line fabrication of polished, optically flat quartz windows that will withstand 600°C bake-out temperature and maintain vacuum with a leak rate less than 1×10^{-10} atmospheres cc/second.

Quartz is outstandingly useful as a special optical window. Unlike glass, it is transparent to infra-red and ultra-violet waves. The ability of Eimac windows to withstand high temperature and vacuum make them particularly suited for use in space vehicles and in many research devices.

The CA 8050 quartz window is the first Eimac standard production window. It provides a one inch diameter clear view. The stainless steel mounting tube can easily be heliarc welded to a mating tube or a flat mounting flange. The stainless steel retaining cup protects the edge of the window, and makes it possible to apply a positive internal pressure without damaging the seal.

Other mounting provisions for this window are available on special order.



CA 8050 QUARTZ WINDOWS

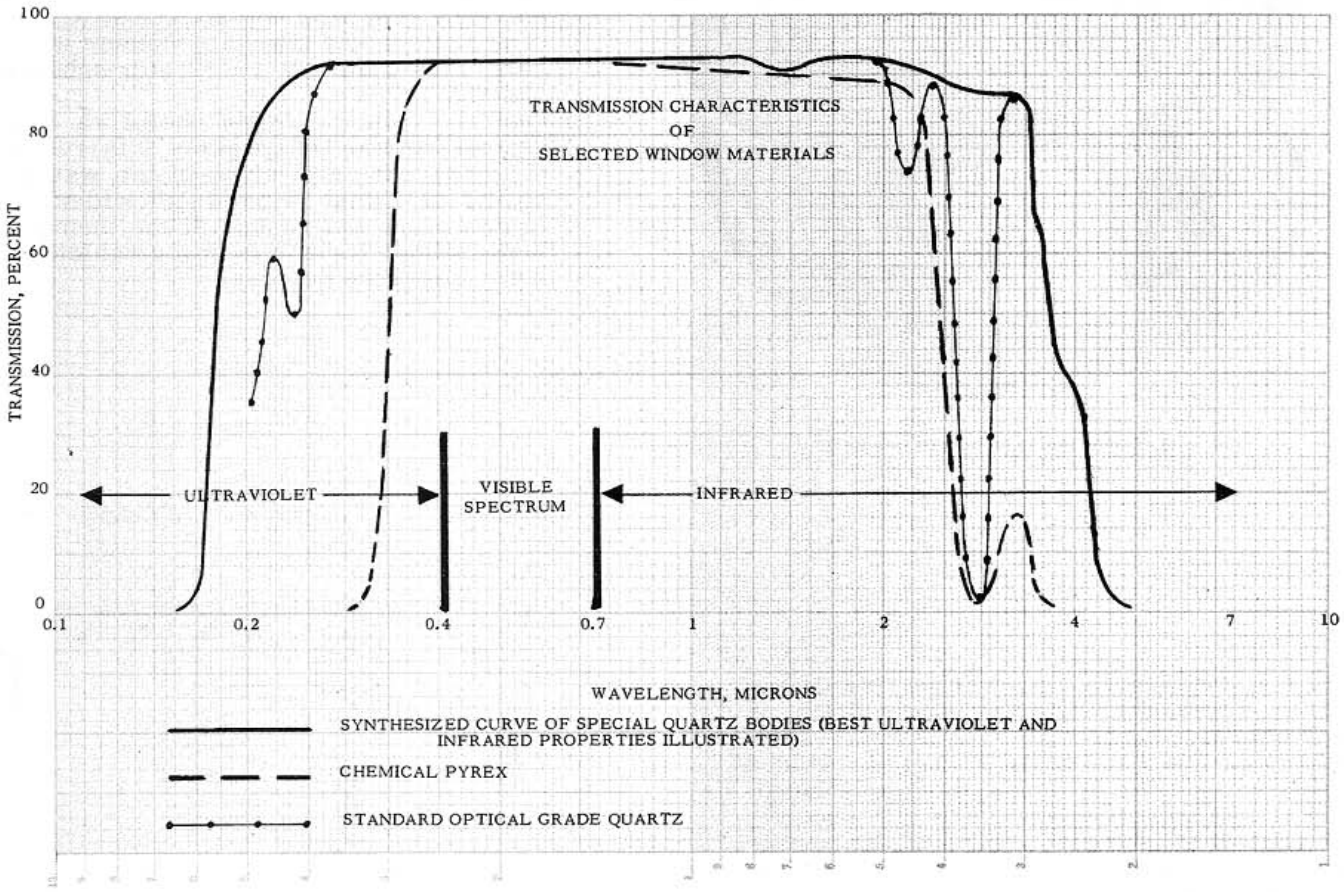
SCALE: 2:1

The Eitel-McCullough Quartz to Metal Sealing Process is immediately applicable to special grades of fused quartz as dictated by your requirements. Conventional grades of fused quartz have significant absorption bands at .24 microns and 2.7 microns. Improvement of the optical transmission properties in either the ultra violet or infrared regions is possible with special grades of fused quartz. The presently available CA 8050 windows are fabricated with standard optical quality material for demonstration of the process. The significant improvement in optical transmission over conventional glass windows is illustrated in the figure below. This figure is included for reference only, since many grades and types of fused quartz and glass are commercially available. In addition, the transmission in the absorption bands and the end regions of the curves is very dependent on the thickness of the window. Your particular requirements will dictate the selection of the optimum material.

PHYSICAL PARAMETERS

These Q/M assemblies can take repeated bakeouts to 600°C or more. The seal stresses in the window are minimal and confined to the outer 0.1 inch of the circumference.

Assemblies have leak rates below 1 x 10^{-10} atmospheres cc/second.



The CA 8050 one inch quartz window is the first of a planned series of Eimac optical windows. For information concerning other diameters, as well as windows of sapphire and other materials, contact your nearest Eimac sales office.

Eimac®

EITEL-McCULLOUGH, INC.
SAN CARLOS, CALIFORNIA