

Annealing Glass with a Model E4 Radiant Heating Chamber

Application

A television CRT manufacturer annealing the glass necks of broken television CRTs.

Problem

New Requirement for Repair - With the production increase of television CRTs that were 31 inches (787 mm) and above, the manufacturer could no longer afford to scrap the CRTs that became damaged and needed a method to repair them.

Temperature Requirements - Proto-type repair methods used convection heat which did not reach high enough temperatures or concentrate the heat sufficiently to complete the annealing process.

Solution

Heat - A Model E4-10 Radiant Heating Chamber applied heat to the glass necks of the broken television CRTs, re-establishing the bond at the broken area and annealing the glass.

Power Control - A Model 664F Phase Angle SCR Power Controller controlled the power to the Radiant Heating Chamber.

System Integration - The Radiant Heating Chamber was installed in a fixture that automatically lowered it over the glass neck of the CRT. The Radiant Heating Chamber and SCR Power Controller were also incorporated into a closed loop control system.

Benefits

Precise, Concentrated Heat - The combination of the Model E4 Radiant Heating Chamber and Model 663F Phase Angle SCR Power Controller, integrated into a closed loop control system, provided the precise heat output and concentration required for the annealing process.

Reduced Scrap - The Radiant Heating Chamber gave the manufacturer the capability to repair expensive CRTs that would have previously been scrapped.