

## DOCUMENTATION SHEET



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**Title :** IR radiation cure studies of Bi-functional epoxy resin systems

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**Keywords:** IR radiation, Cure, Bi-functional, Epoxy resin, FTIR, T<sub>g</sub>

**Abstract:**

This report represents the IR radiation cure studies of Bi-functional Epoxy resin systems. Infrared Radiation is used to effect cross-linking reactions in two grades of bi-functional epoxy resin systems. This study was carried out in order to assess both the speed and uniformity of the polymerisation as compared to those obtainable from the conventional thermal cycle methods. The glass transition temperature was used as a measure of the extent of curing. FTIR scans were also analysed to confirm quantitatively the completion of cure. The IR radiation curing was carried out using an in-house fabricated IR lamp chamber, composed of five lamps with a power rating of 250 watts each. On the basis of T<sub>g</sub> obtained, the systems were compared with thermally cured neat resin castings.