TECHNOLOGY TRANSFER

Interest Exploratory Note

Film Adhesives EFA 1753 and EFA-1752

(Structural adhesives for honeycomb sandwich fabrication)

Vikram Sarabhai Space Centre of Indian Space Research Organization has developed an epoxy film adhesive; EFA-1753 (300 GSM) and EFA-1752 (200 GSM) (in the form of continuous film) that cures at elevated temperature 175 °C for 1 h and they possess good adhesive strength and filleting properties. Light-weight honeycomb sandwich structures are extensively made using epoxy film adhesives with precisely controlled glue line thickness. Film adhesive can also be used by shipping and boat manufacturing industries also, for fabrication of sandwich structures and other composite assemblies.

Salient Features

- One-component, heat curable, toughened, high strength polymeric film adhesive.
- Heat curable (175°C for 1 h).
- Ensures filleting during curing, leading to very high bond strength in honeycomb sandwich.
- Space qualified.

Properties	Values
Areal density, GSM [Two types]	300±20 (EFA 1753) and 200±20 (EFA 1752)
Lap shear strength at 25°C (Al/Al), MPa	≥ 25
LSS at 130°C (Al/Al), MPa	≥ 12
LSS at -196°C(Al/Al), MPa	≥ 25
Honeycomb Flat wise tensile strength at 25°C, MPa	≥ 4
TML, %	≤ 1.0
CVCM, %	≤ 0.1

Department of Space has authorised NSIL for Technology Transfer of Film Adhesives EFA 1753 and EFA -1752 to suitable entrepreneurs/ Industry in India. Interested Parties may please fill the enclosed form and send by email to contact-nsil@isro.gov.in