

IH-1000 Urethane Acrylic Polybutadiene *(Development Grade)*

IH-1000 is a unique urethane acrylic Polybutadiene grade possessing similar properties as TEAI-1000 while offering the advantage of preventing yellowing of products.

Properties of Polybutadiene Grades

Grade	Viscosity (Pa·s/45°C)	Acryl equivalent (g/eq.)	T _g (°C)
IH-1000	250 - 400	1200 - 1600	-14
TEAI-1000	250 - 400	1200 - 1600	-14

Solubility Behavior

Polybutadiene / Monomer (wt/wt)	2/8	5/5	8/2
IH-1000 / Methyl methacrylate (MMA)	S	S	S
IH-1000 / Isobornyl acrylate (IBOA)	S	S	S

The solubility behavior of IH-1000 and selected monomers have been tested showing good solubility after 24 hours of room temperature.

Properties of polybutadiene based resins after UV hardening

Resins based on polybutadiene have been prepared with Polybutadiene (98 wt%) and Bis(1-methyl-1-phenylethyl) peroxide (2 wt%). The mixtures were casted in a glass mold and heat hardened for 3 hours at 110°C, then at 130°C and at last for 3 hours at 150°C. Tests were performed with 500w/m² in the range of 300-700nm (30°C, 50%RH).



Fig. 1) Left: TEAI-1000 based
Right: IH-1000 based

UV
→
1000 hours



Fig. 2) Left: TEAI-1000 based
Right: IH-1000 based

Conclusion

The development grade IH-1000 shows same properties as TEAI-1000.

The application of IH-1000 has been investigated in comparison to TEAI-1000 showing that IH-1000 based resin does not show any yellowing under severe UV test conditions.