HOT MELT ADHESIVE

Polyamide Hot Melt Adhesive

UA-G0175

UA-G0175 is a flame-retardant polyamide hot melt adhesive in amber granule form, developed for low pressure molding (LPM) of fragile and precision components in automotive electronics and filters, and for coating insulation. Its ring-and-ball softening point is 172–182 °C, it is processed between 190 and 230 °C, and it crystallises in 8 to 60 seconds — so an encapsulated part is cool, demoulded and packed while a potting resin would still be curing.

KEY FEATURES

- UL94 V0 flame retardant — encapsulated assemblies meet a V0 requirement without a second flame-retardant process or added parts
- Tested from −35 °C to +135 °C — the temperature envelope automotive and electronics standards ask for, with a Tg of −35 °C
- Built for low pressure molding — a fraction of conventional injection pressure, so solder joints, wire insulation and MEMS survive encapsulation
- Crystallises in 8–60 seconds — cycle time in seconds, no curing oven and no post-bake; demould and pack
- Shore A 92 with ≥300% elongation — protects mechanically while absorbing thermal cycling and vibration instead of cracking
- RF-friendly dielectric — Dk 3.3–3.7 and Df 0.009–0.016 at 10 GHz suit antenna, sensor and high-frequency modules
- Reworkable — reheat the part and the encapsulant softens, so a failed component is repaired, not scrapped

TECHNICAL SPECIFICATIONS

Property	Value
Appearance	Amber granules
Softening point (ring and ball)	172-182 °C
Melt viscosity	3,500-5,500 mPa·s (210 °C)
Melt flow rate	600-800 g/10 min (210 °C, 2.16 kg)
Hardness	Shore A 92
Tensile strength	≥6 MPa
Elongation at break	≥300%
Glass transition temperature (Tg, DSC)	−35 °C
Service temperature, tested	−35 °C to +135 °C
Flammability	UL94 V0
Dielectric constant Dk (10 GHz)	3.3-3.7
Dissipation factor Df (10 GHz)	0.009-0.016
Packaging	20 kg kraft paper bags

Property	Value
Shelf life	24 months (dry, room temperature, unopened)

RECOMMENDED PROCESSING CONDITIONS

Stage	Guideline
Melting	190-230 °C; keep within this window and avoid prolonged heating, which degrades the adhesive
Injection	Low pressure molding — a fraction of conventional injection pressure, set per mould, cavity and component fragility
Crystallisation and demoulding	8-60 s per shot depending on part mass and wall section; no curing oven
Surface preparation	Remove dust and degrease the substrate with a suitable solvent before moulding
Moisture control	Polyamide absorbs water and damp granulate causes bubbles and weak bonds — dry at 80-100 °C for 2-4 hours before use if needed
Rework	Reheat the part to soften the encapsulant, repair, then remould

TYPICAL APPLICATIONS

- Automotive electronics — sensors, connectors, PCB areas and harness joints encapsulated by LPM where heat, vibration and a V0 flame requirement all apply
- Filters — end-cap bonding and pleat stabilization for air, oil and fuel filters, where the bond has to hold through heat, oil and vibration
- RF and sensor modules — antenna, radar and sensor assemblies that need a low-loss dielectric encapsulant
- Coating and insulation — protecting fragile components and conductive paths with a tough, void-free layer
- General assembly — anywhere a high-softening-point polyamide bond is needed on plastics, metals or pretinned surfaces

PACKAGING AND STORAGE

- Supplied in standard export packaging; roll width, length and liner options confirmed on order.
- Store in a dry, ventilated place below 30 °C, away from direct sunlight, moisture and ignition sources.
- Shelf life: 12 months in unopened original packaging. Reseal opened rolls and use them within the period stated above.

> **Handling note:** Hot melt adhesives are applied molten. Use a suitable dispenser or laminator with accurate temperature control and keep hands clear of the melt and heated surfaces.

The values above are typical test results obtained under standard laboratory conditions and are provided for reference in product selection. They do not constitute a specification or warranty of performance in a particular application, because bonding results depend on substrate, equipment, line speed and ambient conditions. We recommend a trial run on your own production line before commercial use. Shanghai United Industry Co., Ltd reserves the right to revise this document without notice.

Shanghai United Industry Co., Ltd · Building 2, No. 315, Weichang Road, Jinshan District, Shanghai, China
www.uniteindus.com · info@uniteindus.com