Technical Data

Technicure® D-10

Description:

Technicure® D-10 is a pulverized grade of dicyandiamide with an average particle size of about 10 micron. The products contains fumed silica to prevent clumping and improve flow. Typically the product is used with epoxy resin between 3-8 phr. Technicure® D-10 reacts with epoxy resin at temperatures higher than 170°C unless an accelerator is used. Suggested accelerators include Technicure® LC-80, Technicure® LC-100 and substituted urea such as Technicure® MDU-11M, Technicure® PDU-250M and Technicure® TDU-200M. The type and loading level of an accelerator will provide excellent balance of low temperature reactivity and formulation shelf stability.

Technicure® D-10 is available without fumed silica or with a different flow control agent.

Advantages:

- Long formulation shelf stability
- High glass transition temperature
- Excellent adhesion to a variety of substrates
- Can be used with an accelerator

Typical Applications:

- One-component adhesives for auto, aerospace and electronics applications
- Composites such as pre-pregs
- Powder coatings

Handling Precautions:

Refer to the product Safety Data Sheet

Typical Properties:

Appearance:	White micronized powder
Average Particle Size:	10 micron
90%:	<30 micron
Melting point:	207- -211 °C
Assay:	99%
Moisture content:	<0.5%

Recommended use level with
Epoxy resin (EEW=190): 3-8 PHR

Typical Formulations (by wt.):

Liquid epoxy resin (EEW=190)	100	100	100
Technicure® D-10	8	8	8
Technicure® PDU-250[1]	0	1	0
Technicure® LC-80[1]	0	0	3
Fumed silica (H 200U)[2]	1	1	1
Reactivity by DSC[3]			
Onset Temp., °C	184	144	121
Peak Temp., °C	191	154	141
Heat of Reaction, J/gm	214	269	339
Glass Transition Temp.[4], °C	158	143	158
Shelf stability[5] at 40 °C			
weeks	>12	2	>5

1. Dicy accelerator – Product of ACCI Specialty Materials
2. Fumed silica – Product of OCI Company Ltd.
3. 10°C/min. scan rate
4. By DMA, after 30 minutes cure at 140°C
5. Time to double the viscosity

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