

Advanced Materials**Euremelt®**

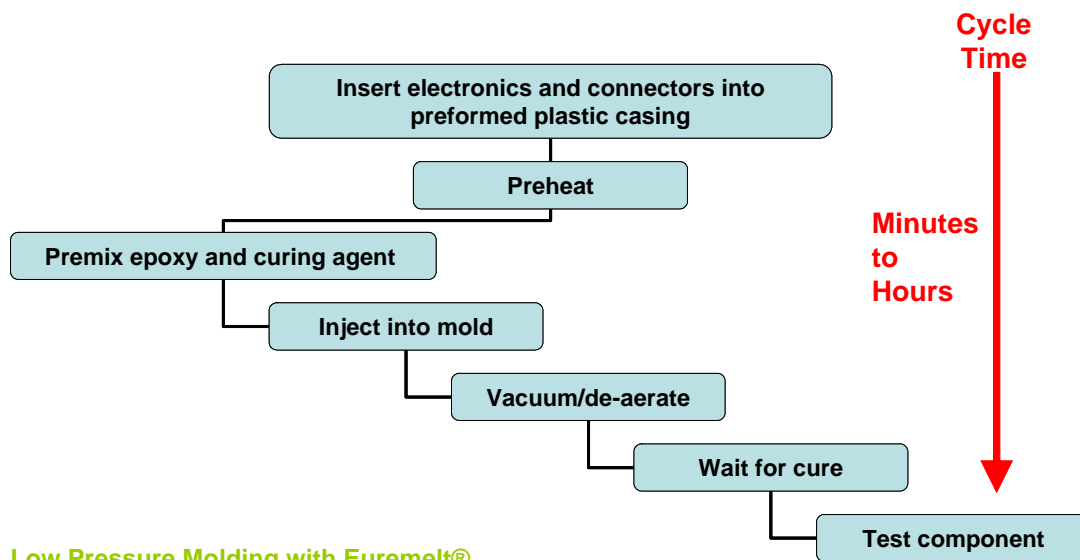
Thermoplastics Polyamides for Low Pressure Molding



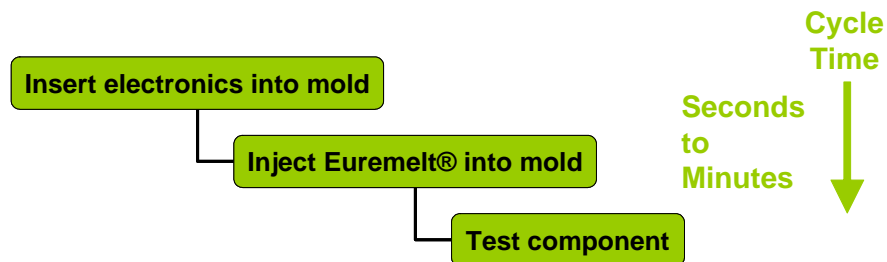
Euremelt® Thermoplastic Polyamides for Low Pressure Molding:

Low pressure encapsulation of delicate electronic components is increasingly the manufacturing process of choice, replacing more traditional thermosetting epoxy potting compounds and plastic injection molding of cable connectors, providing superior properties and shorter cycle times.

Typical Potting Process:



Low Pressure Molding with Euremelt®



Advantages and Benefits of Euremelt® Low Pressure Molding Compounds:

- Very short (Between 10 – 60 seconds) cycle time to completion of component
- One stage process: Replaces the housing and potting in one single operation
- Low pressure molding typically 5 – 40 bar
- Wide range of applicability from complete circuit boards to simple connectors
- Low viscous molding materials give excellent flow around components, cavities and connecting cables
- Complete water-tight seal
- Wide range of working temperatures, cold as well as hot
- No damage or distortion of components
- High levels of strain protection (Connectors)
- Low toxicity
- Clear Amber or black colored (Visible or invisible components)
- Manufactured in the EU

Euremelt® products are designed to melt and flow easily around delicate components by careful control of the melt viscosity. They show extremely good adhesion to a wide variety of materials including metals, boards, PUR, PP, PVC, and PA66, in fact almost anything that might be expected in an electronic installation. The high level of adhesion provides a watertight seal and hence high longevity of the encased components. Although molding temperatures are quite high, the cycle time and cooling period is relatively short and no curing time is necessary. The encapsulated components can be tested almost right away after de-molding. All the Euremelt® products are UL94-V0 capable*. (To be certified individually)

Applications:

- Printed-board assemblies
- Sensitive electronics
- Sensors
- Automotive connectors
- Industrial multi-wire connectors
- Coils
- Relays
- Micro switches
- Transformers
- Cable bundles
- Electrical wire harness

Euremelt® - The “Green” Alternative:

Euremelt® thermoplastic hotmelt polyamides are produced using a high proportion of renewable natural raw materials (>70%) from a variety of vegetable sources. They are applied by a simple thermal melting process without any further chemical reactions and do not involve any mixing of potentially more toxic components. Already considered polymers, they fall outside the scope of REACH. Euremelt® products contain no critical substances according to RoHS/WEEE/EU-automotive guidelines.

Euremelt® Core Product Range

Euremelt® 3413 (Euremelt® 3413 Black)	Standard product for low pressure molding Universal grade suitable for a wide variety of typical applications
Euremelt® 2170	Specialty product for low pressure molding Higher hardness and stability compared to Euremelt 3413 but with moderate flow and low temperature flexibility
Euremelt® 2170 Black (LME 10302)	Specialty product for low pressure molding Primarily used for battery sealing and capping. Higher hardness and stability compared to Euremelt 3413 but with only moderate flow and low temperature flexibility
Euremelt® 2166	Specialty product for low pressure molding Lower viscosity and with higher hardness and stability compared to Euremelt 3413 but shows reduced low temperature flexibility
Euremelt® 2115	Specialty product for low pressure molding For small parts and plug capping with a lower melting point
Euremelt® LME 10269 (Formerly LBK 3613)	Specialty product for low pressure molding Development product with improved adhesion to copper. Compared to Euremelt 3413 shows higher temperature resistance but slightly reduced adhesion to plastic materials and reduced flow.

Euremelt® Product Data:

Properties	Test Method	Unit	EM 10269	EM 2115	EM 2166	EM 2170	EM 3413
PHYSICAL							
Color			Amber	Amber	Amber	Amber/Black	Amber/Black
SG	DIN 53479		0.98-0.99	0.98-0.99	0.98-0.99	0.98-0.99	0.98-0.99
Working temp. Range		°C	-40 to +120	-20 to +70	-20 to +100	-30 to +120	-40 to +100
Hardness	DIN 53505	Shore A	92-98	90-96	91-97	90-96	83-89
Elongation	DIN ISO 527	%	> 150	> 65	> 150	> 200	> 250
Softening Point	DIN ISO 4625	°C	170-180	110-120	163-169	167-175	150-160
Typical Molding Temp.		°C	190-230	150-200	180-200	180-220	180-220
Viscosity at 210°C	DIN ISO 2884	mPas	2800-4000	ca. 800	ca. 600	ca. 3500	2800-4000
ELECTRICAL							
Dielectric constant@ 1 kHz			na	na	na	na	na
Volume resistivity		Ohm cm	na	na	5 E11	3 E12	3 E12
Dielectric strength		kV/mm	na	na	na	na	23
Flammability Rating	UL94*		V-0	V-0	V-0	V-0	V-0

* UL94 capable but requires certification for the particular application

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