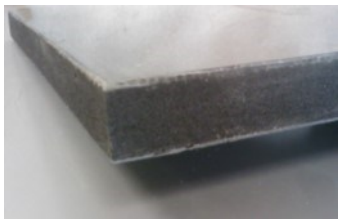
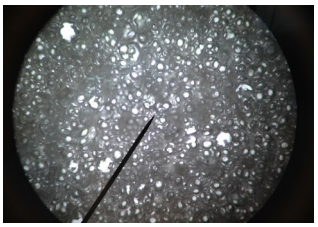
resoltech
ADVANCED TECHNOLOGY RESINS

RESOLTECH 3080 M35 ECO

Hardener 3088 M ECO

Bio-based Hot Curing Epoxy Foam

- 30% Bio-based epoxy system
- Density 350 kg/m^3
- Cures in less than 1 hour
- High mecanical properties

RESOLTECH 3080 M35 ECO/3088 M ECO is a liquid foaming epoxy system formulated to be sprayed with an airgun at a temperature around 30°C.

RESOLTECH **3080 M35 ECO/3088 M ECO** has a free **expansion coefficient of 3**, enabling the production of a **350 kg/m^3** epoxy foam.

The main advantages of this epoxy foaming system over existing systems are :

- A fast curing time, 20 minutes for a mould at a temperature of 80°C.
- The **3080 M35 ECO/3088 M ECO** contains 30% of bio-based raw materials which efficiently reduce the carbon footprint of the final part.
- Major improvement of thermal and mechanical resistances compared to existing epoxy foams. No VOC emission.

Maximum thicknesses have to be determined by tests depending on the mould temperature and if the foam will be sprayed on insulative material or not.

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MIXING RATIO BY WEIGHT

System	3080 M35 ECO/3088 M ECO
Mixing ratio by weight	100 / 40

The mixing ratio must be respected neither excess nor default. The mixture should be homogeneous and intimate before use.

APPLICATION

The resin **3080 M35 ECO** has to be re-homogenized before each use in order to ensure the expected foam density. It is recommended to spray the mixed resin and hardener at a temperature around 30° C in order to ease the mixing and spraying process. However, the viscosity of the mix can be adjusted by increasing the temperature up to 50°C. Lower temperature will increase the viscosity of the mix while higher temperature will reduce the viscosity and the pot life. **The foaming starts 2 minutes after mixing, it is recommended to spray the mixed resin + hardener within these 2 minutes .**

PHYSICAL CHARACTERISTICS

Visual aspect

3080 M35 ECO : Pale blue viscous liquid
3088 M ECO : Yellow viscous liquid
Mix : Blue viscous liquid

Density (ISO 1675, ±0.05)

Average free expansion ratio : x3

	3080 M35 ECO	3088 M ECO	Mix prior to foaming	Mix after foaming
Density at 23°C	1.17	0.96	1.11	0.35

Viscosity (ISO 2555, ±25%)

	3080 M35 ECO	3088 M ECO
Viscosity at 23°C (mPa.s)	27 000	10 000

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REACTIVITY

System	3080 M35 ECO/3088 M ECO
Parameters	1 to 5 mm film at 30°C
Time before foaming	2min
End of foaming	30 min (at 50°C)
Dry touch / overcoatable	45 min (at 50°C)
Hard & Releasable	1 hour

Polymerization process is independent from foaming. Depending on temperature & volume to be sprayed, the hardening time can vary significantly.

CURING & POST CURING

The foam obtained may released from the mould after 1h at 50°C. Nevertheless for higher thermo-mechanical properties and a fast curing, the foam can be released after 20 minutes in a mould at 80° C.

Like all epoxies, the reticulation process of the **3080 M35 ECO/3088 M ECO** is exothermic. It is recommended to proceed to preliminary tests for very large applications.

System	3080 M35 ECO/3088 M ECO
T_G after 1 hour at 50°C	82°C
T_G after 20 min at 80°C	90°C

T_G measurements made with Kinetech® (DMA type, under mechanical solicitation)

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PACKAGING

- 1,4 kg kit (1kg+0.4kg)
- 7 kg kit (5kg+2kg)
- 35 kg kit (25kg+10kg)
- 280 kg kit (200kg+4x20kg)

TRANSPORT & STORAGE

Keep containers sealed and away from heat and cold preferably between 10°C and 30°C in a well ventilated area. Our products are guaranteed in their original packaging (check expiry date stated on the label).

HEALTH & SAFETY

Skin contact must be avoided by wearing protective nitrile gloves & overalls or other protective clothing. Eye protection should be worn to avoid risk of resin or hardener entering the eyes. If this occurs, flush the eye with water for 15 minutes, holding the eyelid open, and seek medical attention. Ensure adequate ventilation in work areas. Respiratory protection should be worn with ABEKP coded filters. RESOLTECH issues full Material Safety Data Sheet for all hazardous products. Please ensure that you have the correct MSDS to hand for the materials you are using before commencing work.

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