

Acomon RAVolution™

ARRK co-develops a transparent PU-Resin called RAVolution™, resistant to UV yellowing

ACOMON, just like ARRK part of the Mitsui Chemicals Group, is an Italian company and is specialized in the production of optical monomers. Mitsui Chemicals intends to create synergies between its subsidiaries. This is how ARRK, a specialist in rapid prototyping and small series production, will rely on ACOMON's expertise in the formulation of polyurethane resins (PU) to expand its commercial outlets in optical applications.

Together, ARRK and ACOMON collaborated on the development of an innovative transparent resin, resistant to yellowing caused by UV radiation.



The main features of RAVolution™

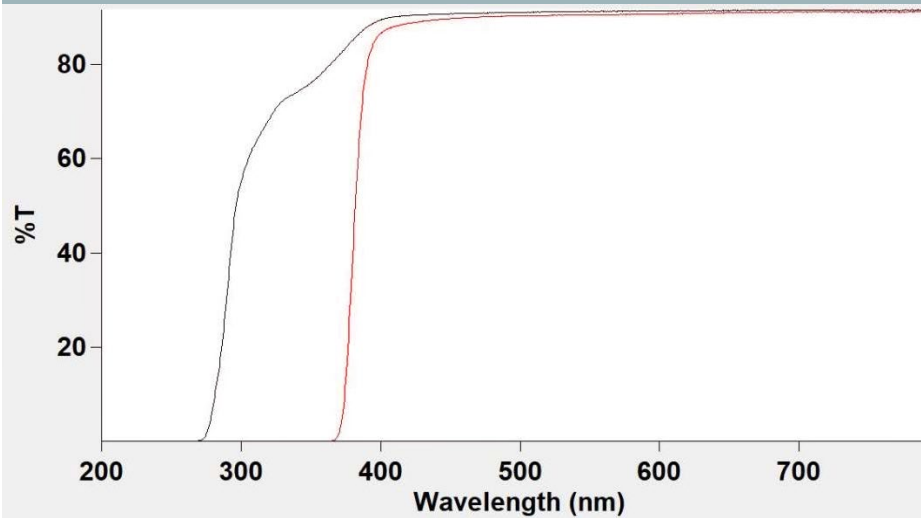
- High reactivity and good conversion using moderate polymerization conditions.
- Mild towards silicone molds > long mold lifetime.
- Excellent polymer optical properties: excellent color, high Abbe value, high clarity, low haziness.
- Superior polymer ageing behavior, UV resistant.
- Suitable for in mass colored and tinted parts.
- Available in packages to cut all UV + part of the HEV (High Energy Visible) blue light for better personal protection.
- Excellent coatability.

A PU resin with interesting physico-mechanical properties

In addition to the excellent properties of transparency and low yellowing, the RAVolution™ LH resin has the following characteristics:

- Refractive index: 1.513
- Strong impact resistance:
 - Hardness = 98 Shore D
 - Flexural modulus: 3300 MPa
- High thermal resistance: thermosetting polymer
- Colorless transparent resin. Color in the mass and gradient dip-dye
- Light material. Density = 1.1 g / cm³

UV-A And B Radiation Absorption Test



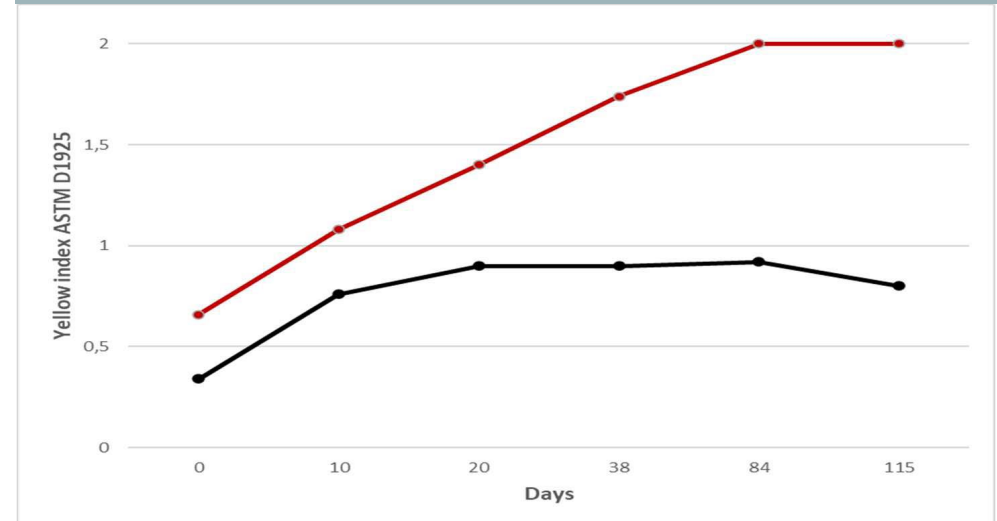
UV-A And B Radiation Absorption Test

Black curve: RAVolution™ LH resin.

Red curve: competitive PU resin.

RAVolution™ LH resin does not absorb UV-A radiation (wavelength between 315 and 400 nm). It offers very good transparency. Its transmission rate is over 92%.

Test of RAVolution™ Resin in real conditions of use (building roof)

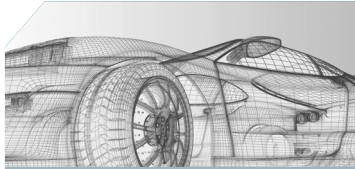


Test of RAVolution™ Lh Resin in real conditions of use (building roof)

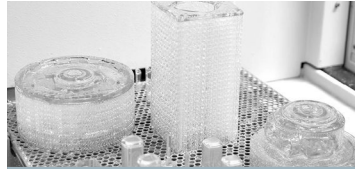
Black curve: RAVolution™ LH resin.

Red curve: competitive PU resin.

The yellowness index of RAVolution™ LH resin is less than 0.3. A brief yellowing of the material is measured in its first days of use. It reaches its maximum on the 10th day and recedes from the 84th day. The appearance of the material is stable over time.



1. Engineering



2. Rapid Prototyping



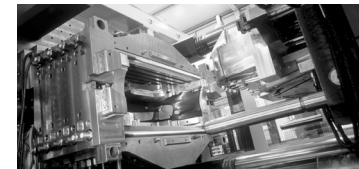
3. Raw Materials



4. Toolmaking



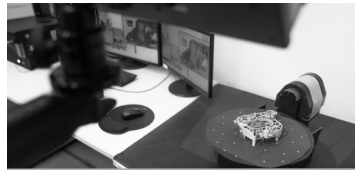
10. Logistics



5. Parts Production



9. Warehousing



8. Quality Control



7. Assembly



6. Finishing



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