

Crosslinking at Ambient Temperature

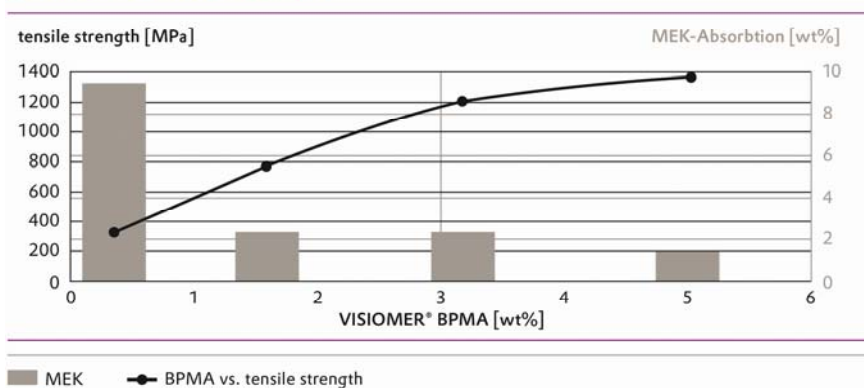
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New aqueous crosslinking systems can make a significant contribution to complying with the increasingly stringent VOC directives.

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Methacrylate systems that enable crosslinking of aqueous binder systems at room temperature allow the user to adjust the final properties of the coating after application by post-crosslinking. At the same time, the user can exploit the advantages of a noncrosslinked, readily film-forming emulsion system for the application. Crosslinking is initiated by light, oxidation or reaction with a condensation partner, depending on the chosen monomer. The light-reactive methacrylate VISIOMER® BPMA based on a benzophenone methacrylate is crosslinked by means of a small dose of UV radiation, i. e. the UV proportion of daylight is sufficient to enable crosslinking. Acrylic resins manufactured with oxidatively crosslinking VISIOMER® MUMA monomers show comparable film properties and offer the added benefit of good compatibility with alkyd resins, i. e. a combination of acrylic and alkyd resins unites the advantages of both systems. VISIOMER® ALMA, a methacrylate system that crosslinks by condensation, makes it possible to obtain durable, high-gloss coatings even when incorporated in small quantities.

Solvent Absorption and Tensile Strength Values as a Function of VISIOMER® BPMA Content



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The advantage of polymers containing the described reactive methacrylates is therefore the ability to adjust a low minimum film-forming temperature while still obtaining very hard films with good mechanical properties and excellent resistance to commonly used chemicals.

VISIOMER® BPMA will be commercially available from the first quarter of 2009, VISIOMER® MUMA from the third quarter of 2009.

Resin Components More than 80 years of methacrylate experience and almost 35 years of isophorone chemistry are the foundation of Evonik Industries top position as global supplier for the resin industry. Evonik's raw materials are essential for all innovative and environmental-friendly technologies.

Methacrylate monomers (VISIOMER®) of Evonik support innovative solutions for a range of coatings systems. Evonik is developing solutions based on different technologies. Crosslinking is initiated by light, auto-oxidation or a condensation reaction. VISIOMER® BPMA and VISIOMER® MUMA are the recommended new developments for these technologies.

Evonik's comprehensive set of **aliphatic diisocyanates (VESTANAT®)** offers the optimum solution for any type of non-yellowing urethane resin such as waterborne PUD, radiation curable urethane acrylates, and others.

VESTAMIN® aliphatic diamines form the basis for epoxy-curing agents.

The broad range of **Dynasylan®** functional silanes is the ideal toolkit for the design and synthesis of polysiloxanes, silicone resins or systems for sol-gel-type processes. Besides its range of monomers, Evonik provides oligomeric and polymeric building blocks (**Tegomer®**), too.

About Evonik

Evonik Industries is the creative industrial group from Germany which operates in three business areas: Chemicals, Energy and Real Estate. Evonik is a global leader in specialty chemicals, an expert in power generation from hard coal and renewable energies, and one of the largest private residential real estate companies in Germany. Our strengths are creativity, specialization, continuous self-renewal, and reliability. Evonik is active in over 100 countries around the world. In its fiscal year 2008 about 41,000 employees generated sales of about €15.9 billion and an operating profit (EBITDA) of about €2.2 billion.

Disclaimer

In so far as forecasts or expectations are expressed in this press release or where our

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