APPLICATION **SHEET**

Adhesives – DEA 288 *Epsilon*

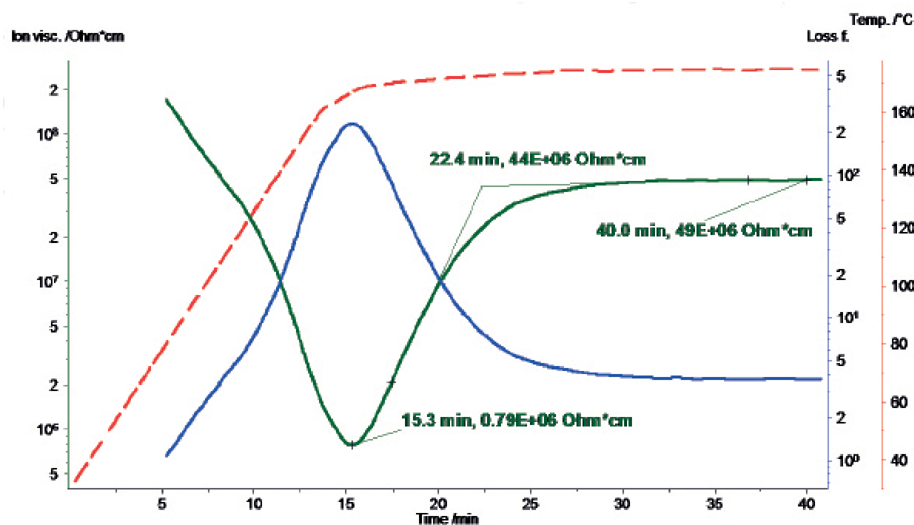
Curing Process Precisely Analyzed

In order to ensure high product quality, NETZSCH offers various methods of Thermal Analysis. These can be applied not only during the incoming goods inspection (DSC, TGA) for polymers and additives, but also intermittently after individual production steps, e.g., after the mixing process (DSC, DEA).

The optimal cross-linking of a specific mixture can thus be determined on the basis of the glass transition temperature. This is a key criterion for the desired elasticity of a sealant.

With Dielectric Analysis (DEA), the curing behavior of reactive adhesives can also be measured directly during your process – i.e., in-situ. A large selection of sensors is available for tailoring your process to various temperature and pressure ranges.

The measurement plot shows the initial decrease of the so-called ion viscosity (green curve) with increasing temperature (red curve).



Measurement with the DEA 288 *Epsilon* with IDEX sensor at 1 Hz

The increase in ion viscosity after 15 minutes provides the start of curing of a structural adhesive at an isothermal temperature of 175°C. After 40 minutes, a horizontal level is achieved for a 100% degree of curing. The ion viscosity is the reciprocal value of the ion conductivity which is calculated from the loss factor (blue curve).

NGB · AS-261-2013 · EN · 01/14 · Technical specifications are subject to change.

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