

SPEEDING-UP BY SLOWING DOWN

Johan F.G.A. Jansen

DSM Resins and Functional Materials, Urmonderbaan 22, 6167RD Geleen, Netherlands

In photo-initiated free radical polymerization, it is generally assumed that the speed in the development of mechanical properties is correlated to the rate of double bond conversion in time. In other words, faster curing results in faster mechanical property build up. Employing RT-DMA-NIR, i.e. simultaneously monitoring both double bond conversion as well as building up mechanical properties, we showed that this assumption is not always valid. It will be demonstrated that it is possible to design formulations which build up mechanical properties quicker despite the fact that they are intrinsically slower polymerizing regarding double bond conversion in time.