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Technical Data

Neoprene Liquid Dispersions Accelerator Comparison

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TECHNICAL DATA

No. 1220
Rubber Department

Neoprene Liquid Dispersions Accelerator Comparison

The selection of the correct accelerator system to optimize the physical properties of the finished product is extremely important in latex compounding. This study compares the effectiveness of several accelerators in **Neoprene 750 Liquid Dispersion** at a relatively low temperature (127°C), and using a low level of accelerator (1 phr). An elevated cure temperature and/or an increased level of accelerator will generally produce higher tensile strengths and modulus values.

Table 1: Masterbatch Compound

INGREDIENTS	DRY (phr)	WET (phr)
Neoprene 750 Liquid Dispersion	100.00	200.0
DARVAN® WAQ surfactant	0.30	1.0
ZINC OXIDE Dispersion	5.00	8.3
Antioxidant dispersion	1.25	2.5
Sulfur dispersion	1.00	2.0
DIXIE CLAY® additive slurry	10.00	20.0
DARVAN SMO surfactant	1.00	3.0
Thickener	0.25	2.0
Accelerator (see table 2)	-----	-----

Table 2: Accelerator Variables

Accelerator/ Compound	1	2	3	4	5	6
THIATE® U accelerator	1.0					
BUTYL ZIMATE® Slurry		1.0				
SULFADS® accelerator			1.0			
VANAX® PML accelerator				1.0		
SETSIT® 5 accelerator					1.0	
VANAX DPG accelerator						1.0

Films were cured at 127°C for either 15, 30 or 45 minutes. Additional films were allowed to air dry but were not cured. The results are depicted graphically so that this study can be used as a guide for comparable activity.

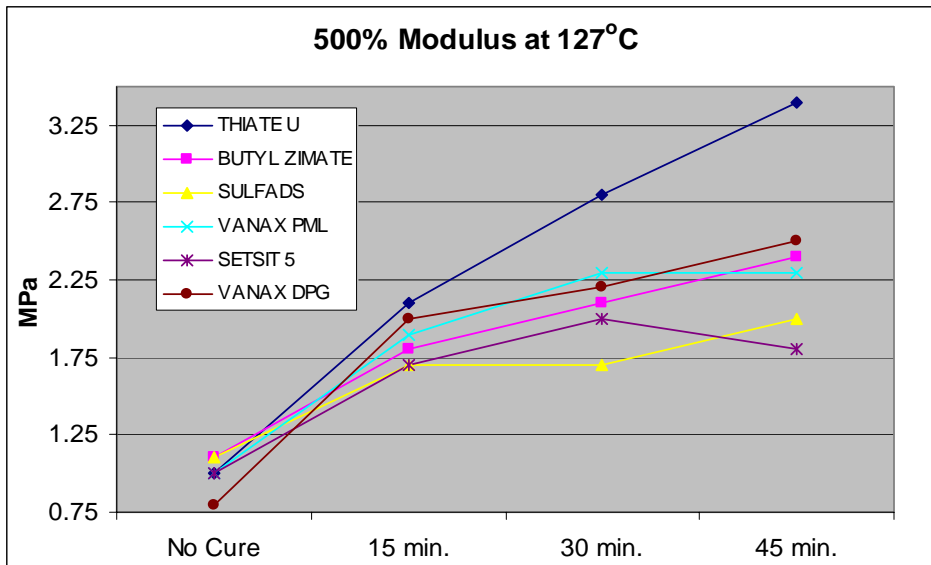


Figure 1: Modulus Comparison

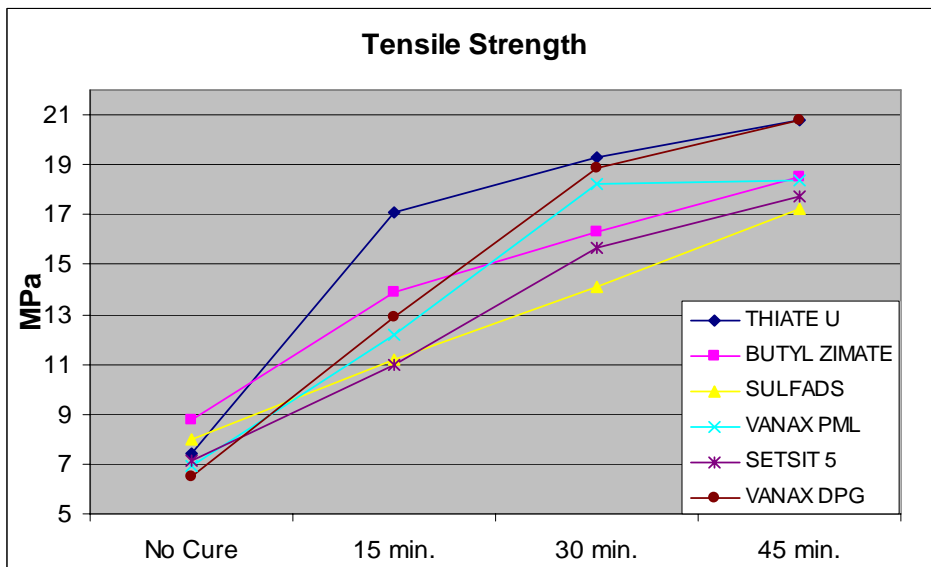


Figure 2: Tensile Strength Comparison

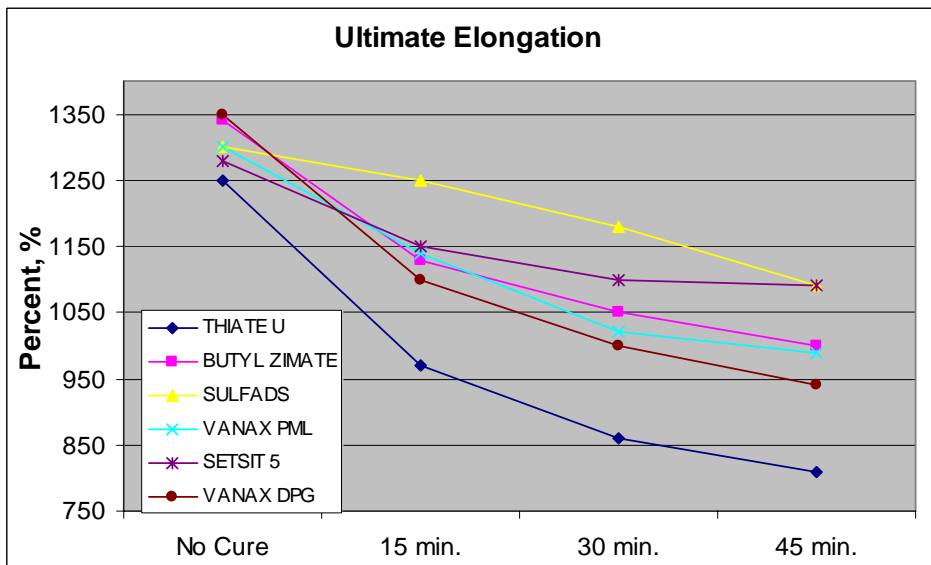


Figure 3: Elongation Comparison

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