Curing Cariflex® IR0401 at lower temperatures
Curing Cariflex® IR0401 at lower oven temperatures

Some Cariflex IR0401 glove and condom customers experience problems in maintaining the recommended curing temperature of 130°C in their ovens. This leads to undercured films with suboptimal mechanical properties.

At KIC-A, we recently investigated several Akron master-batches of compounding chemicals. We found that, by using the right Bostex™ masterbatch, the curing temperature can be significantly reduced, while maintaining good tensile strength in the final film.

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So far, we have recommend 5 phr Bostex™862 in combination with Manawet™ stabilizer as a robust master batch to compound IR0401. The advised curing temperature for this combination is 130°C. Maturation is done at ambient temperature.

Recent investigations indicate that 5 phr Bostex™909 leads to significantly higher tensile strength at lower temperatures (100°-110°C).

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Dipping experiments were repeated using 6 phr Bostex™862 and 909. Tensile properties of the films give the same pattern over time as for 5 phr Bostex™. Higher Bostex™ concentrations give higher tensile strength. For most of the films tested the Modulus 500% was low and the elongation at break was still >1000 %. This means that full crosslink density was not reached yet.

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