



OP-6-562

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**MIXER TESTS ON MIM FEEDSTOCK AND BLENDS WITH REGROUND SPRUE TO DETERMINE TO
THE OPTIMUM MIXTURE FOR THE INJECTION MOULDING PROCESS**

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In the MIM process especially for small parts the amount of sprue is significant high. To minimize waste the sprue is reground and blended with virgin feedstock. This is only possible to a certain amount because with higher sprue content the demoulding of the green parts is not possible anymore without damage to the parts.

Using a torque rheometer with a small batch mixer is an approach to distinguish between virgin feedstock and reground sprue. In a next step different blends of virgin feedstock with reground sprue are tested to determine the maxim amount of waste for the blends.

The rheograms (mixer curves) of virgin feedstock and reground sprue are significant different. Rheograms of blends of virgin feedstock and reground sprue shift with increasing amount of reground sprue from the curve of the virgin feedstock to the curve of pure reground sprue. The mixer test performed at process temperature is a useful method to determine the optimum blend to avoid defective green parts.