



GRAFTALEN™ PP-FE 003 EFFECTIVENESS REPORT

This report is a guideline for effectiveness and dosation of GRAFTALEN™ PP-FE 003 for decreasing viscosity (Increasing MFI) of polypropylene (PP)

MATERIALS USED

Base PP: BRASKEM Inspire 137

Flow Enhancer: GRAFTALEN™ PP-FE 003

TESTS PERFORMED

To determine the effectiveness of our flow enhancer, we measured the melt flow index (MFI) of base PP with different amounts of flow enhancer added.

We added **1%, 2%, 3%, 4% and 5%** of GRAFTALEN™ PP-FE 003

Mixtures were extruded on a laboratory scale extruder.

MFI of mixtures was measured at **230°C, 2,16 kg**, in accordance with ISO 1133.



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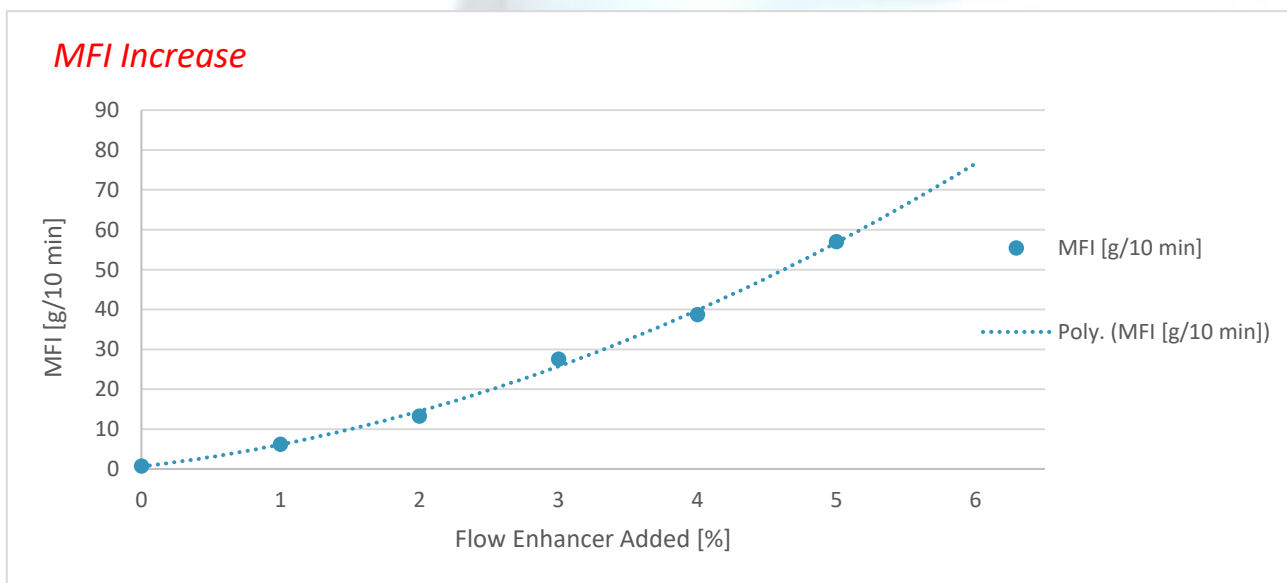
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RESULTS

GRAFTALEN™ PP-FE Added [wt.%]	MFI [g/10 min]
0	0,73
1	6,2
2	13,3
3	27,6
4	38,7
5	57



The MFI increases significantly with added GRAFTALEN™ PP-FE 003, even at low amounts.

MFI increases in a polynomial fashion, according to:

$$MFI = A * x^2 + B * x + MFI_{start}$$

MFI = Melt flow index of mixture

A, B = Constants, depending on the extrusion parameters

x = Percentage of GRAFTALEN™ PP-FE 003 added

MFI_{start} = MFI of base PP

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CONCLUSIONS

- GRAFTALEN™ PP-FE 003 **greatly increases the MFI of polypropylene**, even at **low additive amounts**
- MFI increase follows a polynomial trend with GRAFTALEN™ PP-FE 003 added, meaning:

More additive means even greater MFI increase than at low additive levels (exponential increase)

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Material Report

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