

accelothene™
additive for polyolefins

ACCELOTHENE G5

Description:	Processing additive for the reduction of cycle time and energy consumption during the processing of polyolefins.
Processing methods:	Injection molding / Extrusion / Blow molding
Application:	<p>ACCELOTHENE is applicable for the processing of polyolefins in the usual methods of processing as injection molding, extrusion and blow molding. This additive can offer you following advantages:</p> <ul style="list-style-type: none">⇒ Lower energy consumption (5 up to 10%)⇒ Significant improvement of flow properties (Increase of MFI)⇒ Clearly recognizable reduction of processing temperatures (30 up to 50°C)⇒ Decrease of cycle time (15 up to 25%) due to higher rate of crystallization and shorter cooling time⇒ Better mechanical properties⇒ No negative effect on the material properties⇒ More regular processing of regrind material
Particularity:	Contrary to other processing aids ACCELOTHENE is not diffusing to the surface of the molded part. It remains in the prefabricated part, due to the fact that it meshes in to the molecular structure. By courtesy of the better processing the mechanical properties of the prefabricated part could be essentially enhanced. The efficiency of this additive is depending on the shear forces in the process: The higher the shear forces in the process the higher the efficiency. Therefore ACCELOTHENE is particularly suitable in complex moldings with long flow distances as well as in thin wall applications.
Dosing:	Recommended dosage is 3 – 3,5% to improve the flow properties and to achieve a significant reduction of the processing temperatures. Dependent on the melt flow rate (MFR) and the application a dosage of 1 - 5% can realise the desired effects. Regarding the MFR it can be mentioned the lower the MFR, the lower the necessary dosage.
Packing unit:	Pellets in 20 kg bags
Storage:	The product should be stored in a cool and dry place. Do not expose to direct sunlight. We recommend to use the material within 6 months.
Conformities:	BfR, 10/2011, 1907/2006 (REACH, SVHC), 2011/65/EU (RoHS), FDA, (others on request)

The information submitted in this publication is based on our current knowledge and experience. In view of the many factors that may affect processing and application, these data do not relieve processors from the responsibility of carrying out their own tests and experiments, neither do they imply any guarantee of certain properties or of suitability for a specific purpose. It is the responsibility of those to whom we supply our products to ensure that any proprietary rights and existing laws and legislation are observed.

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Materials testing manual: [Injection molding]

Because of the different material structures this manual can only serve as guiding principle. Depending on the process and the machine hardware the trials could develop differently and the results could deviate very much in dependence on that!

At first you should check if there is enough scope to reduce the cooling time. The plastication should be shorter than the cooling time. Otherwise you should use a shut-off nozzle that enables the plastication while the mold is opening.

For your trials with **ACCELOTHENE** we suggest following procedure:

Step 1

Please start to run your machine with your ordinary processing parameters and the normal material without addition of any **ACCELOTHENE**.

Step 2

Then mix 3% **ACCELOTHENE** with your normal material without changing any of your processing parameters. Now you should realize a drop down of your injection pressure (10% up to 15%) as well as a slight reduction of your injection time. Mostly you also recognize a decrease of plasticizing time (due to better feed performance of the material).

Possibly the shot weight has to be re-adjust a little bit because of the lower viscosity (slight reduction of the shot weight, due to the improvement of the fluidity).

Step 3

Depending on the starting temperature you can reduce step-by-step the cylinder temperature (firstly 10°C steps, than 5°C steps). Keep on reducing until you obtain approximately the starting injection pressure.

Step 4

Now you can decrease step-by-step the cooling time (according to the geometry of the molded part up to 50% are possible).

To maintain the dimensional stability you have to reduce the holding pressure time. Reductions of 70 - 80% at thin walled parts are not a rarity.
Because the crystallization is proceeding earlier and quicker the parts could be eject with a slight higher temperature. At big parts 10°-15°C are possible.

If you have any further questions do not hesitate to contact us.

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