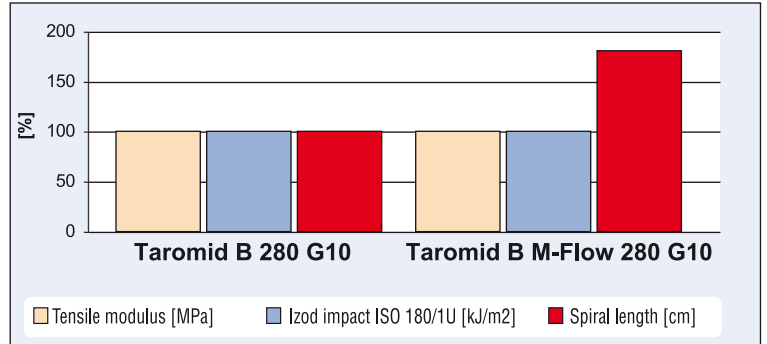


HIGH FLOW POLYAMIDE 6 - MEGA FLOW

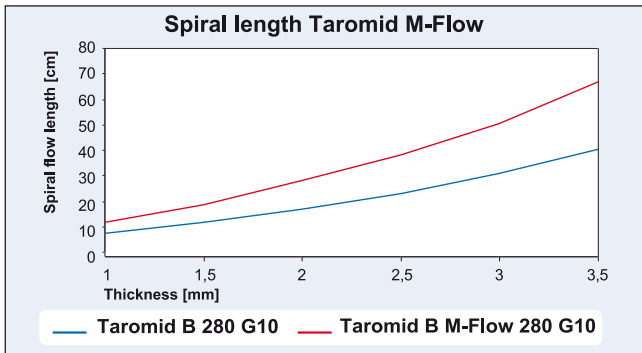


## What does Mega-Flow means...

The possibility to obtain a material with both, better rheological properties in comparison to a standard product, while at the same time maintaining its own mechanical characteristics, has encouraged Taroplast to research and develop a new product capable of meeting these requirements. The result is the new **taromid®B 280 Mega Flow (M-Flow)** polyamide 6 series, which joins the already existing and consolidated Taromid B 280 polyamide 6 standard series.



Taromid B 280 G10 vs. Taromid B M-Flow 280 G10



Conditions: temperature 260°C / pressure 900 bar

Taroplast technology has been able to achieve a reduction in the polymer viscosity while minimizing the loss of the mechanical properties, as it once was in theory stated. The new **taromid®B 280 M-Flow** series offer the possibility to have an increase in fluidity of almost 150% Vs. the equivalent standard grade, while still keeping the mechanical properties unaltered.

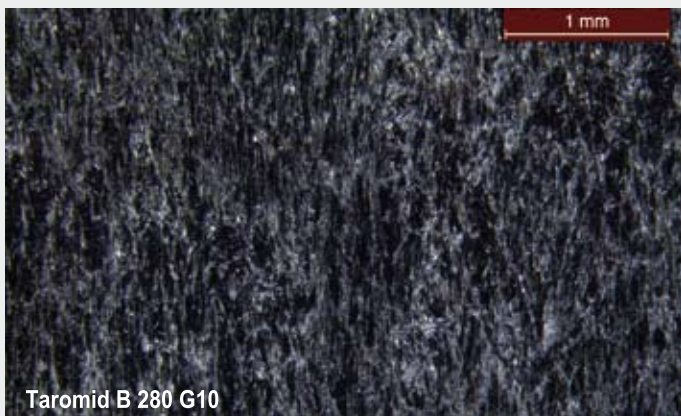
This fact provides several benefits such as a much easier material processability, as well as improved aesthetics of the finished product.

## Key benefits...

### APPEARANCE

Thanks to its high fluidity, the use of **taromid®B 280 M-Flow** series guarantees a better surface appearance when compared to the standard Taromid B series. This phenomenon is even more evident in those cases where the glass fibre content reaches high values (50 - 60%) and where normally the surface appearance of the final part may represent a non-easy problem to be solved.

Having a good surface appearance may represent, in some circumstances, a decisive factor to avoid secondary surface treatments (such as painting for instance), as well as a reduction of the waste generated by these operations.



## PROCESS CONDITIONS

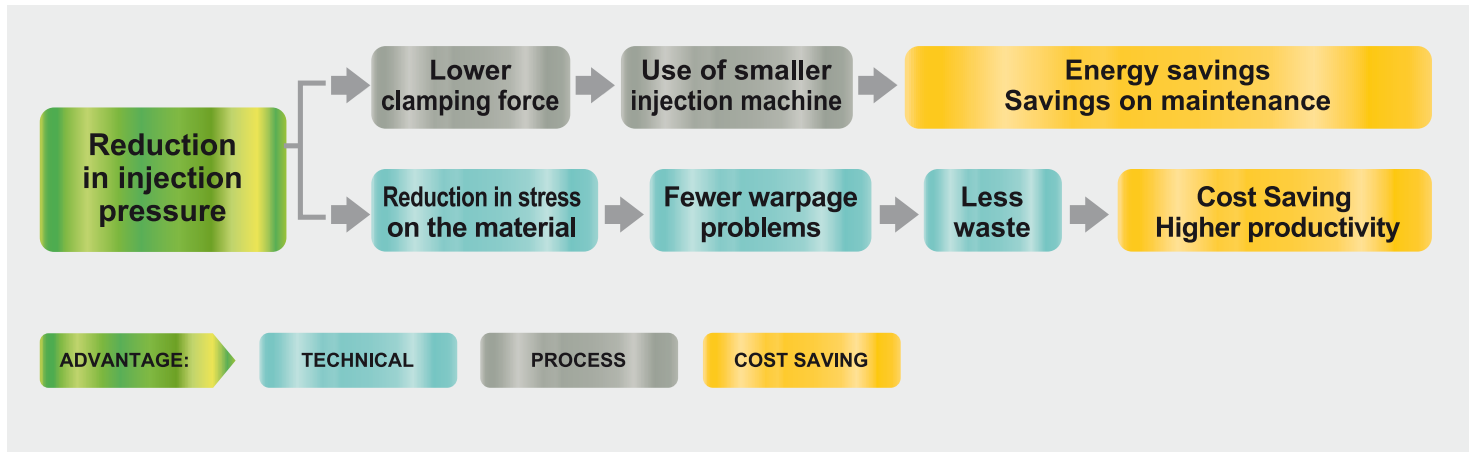
Many advantages can be achieved during the production process by using the new grades of the **taromid®B 280 M-Flow** series. Working with a material with such a high level of fluidity allows to work with less restrictive moulding parameters, which at the end, will bring more benefits in both terms, productivity and cost saving.

### ➔ Reduction of the injection pressure

- Using an injection moulding machine with lower clamping force.
- Reduction in stress inside the mould (warping).

Working with a high flow material results into the use of both, a lower injection (filling) pressure as well as lower clamping force. In one word, smaller moulding units can be used with lower maintenance costs.

Having a material less stressed (lower tensions) inside the mould brings better results in terms of warpage.

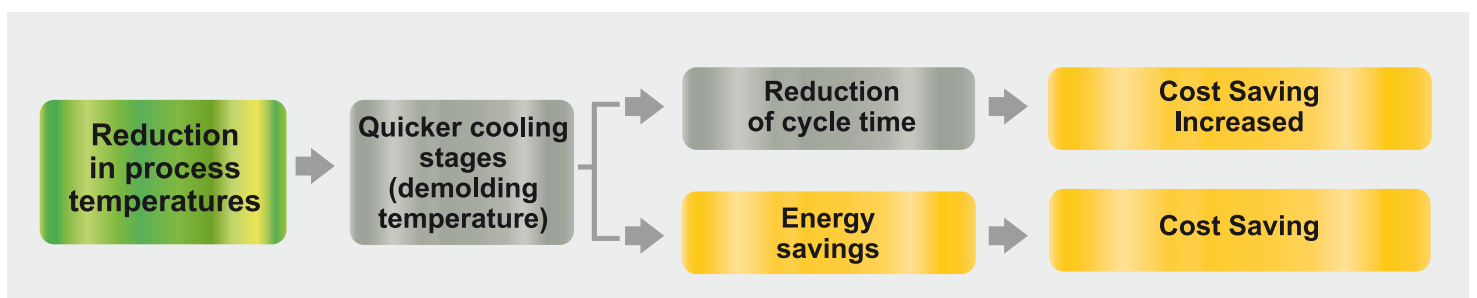


### ➔ Process temperature reduction

- Quicker cooling (demolding temperature)
- Shorter moulding cycle
- Increased productivity.

The possibility to have a high flow material allows to work with lower temperatures in comparison to those needed for the standard grades. Due to this fact the product extraction temperature is reached much faster (materials processed at a lower temperature have a shorter cooling time).

The result is the achievement of higher productivity rates due to shorter moulding cycle time.



## MOULD DESIGN

Another important aspect resulting from the low viscosity of the **Taromid® B 280 M-Flow** series is the possibility to have less restrictive constraints when it comes to design (easier processability) and produce the moulds (cost saving).

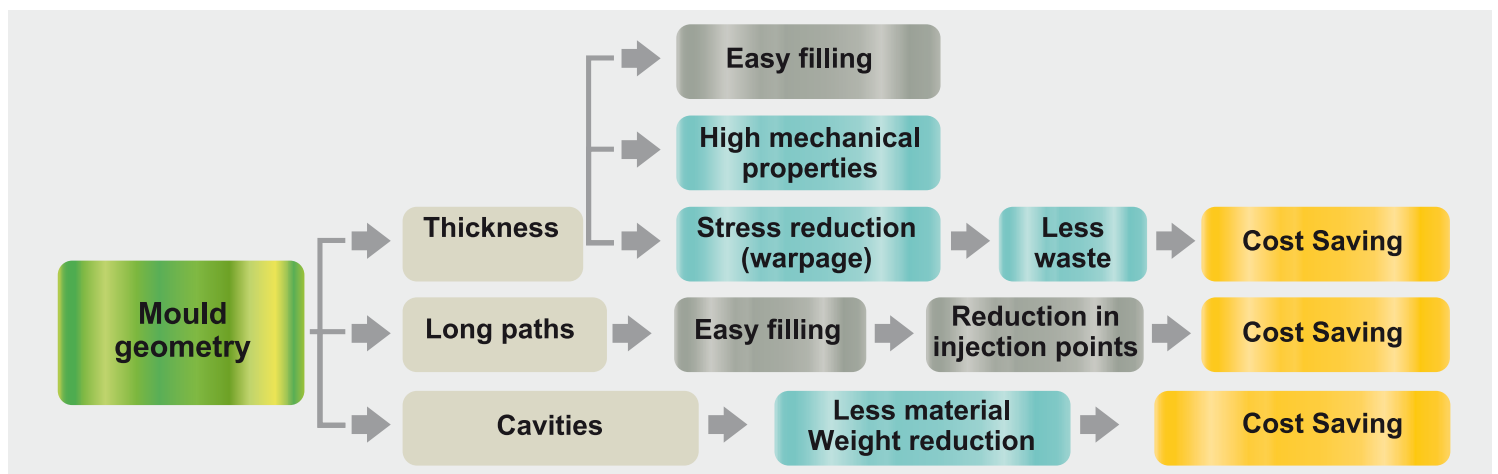
### ➔ Geometry of the mould

- Thicknesses
- Cavities
- Longs of flow paths (complete filling)
- Injection points (easier gate concepts)
- Reduction of internal stress (warpage)



The relationship between the flow path and the wall thickness is a key factor to keep in mind when it comes to mould designing. These two parameters have a critical influence in the filling up of the mould cavities during the moulding process. Furthermore, the wall thickness determinates the mechanical properties of the part (stiffness), especially for the glass fibre reinforced materials (orientation of the fibre).

Thanks to the excellent rheological properties of the **Taromid® B 280 M-Flow** series, smaller wall thicknesses designs can be used obtaining at the same time a complete filling up of the part even when dealing with complex shapes or long flow paths.



## Key applications...

There are several applications in which the **taromid®B 280 M-Flow** series can be used. For instance both, the **taromid®B 280 M-Flow G10** and the **taromid®B 280 M-Flow G12** can be used for metal replacement and structural applications.

Thanks to the high fluidity of the material, it becomes much easier to incorporate a higher amount of glass fibre content inside the polymeric matrix, while obtaining at the same time an improved surface appearance.

The replacement process can be achieved thanks to two decisive factors:

- Improved stiffness.
- Improved tensile strength.

As a matter fact, thanks to the high glass fibre content (50 - 60%) it is possible to reach both, stiffness (elastic modulus) and tensile strengths values, which are very similar to those encountered in the most widely used metals.

Other benefits:

- Higher thermal conductivity (quicker cooling)
- Lower thermal expansion (dimensional aspect)
- Improved aesthetics (despite high percentage of glass fibres)
- Lower injection pressure (stress and warpage reduction)
- Use of thinner thicknesses (improved rigidity)
- Higher resistance to temperature

The high modulus **taromid®B 280 M-Flow** series can be used as product replacement where a high performance polymer (PPS or an aromatic polyamide) is required.



Strada Diolo, 57

I-43019 Soragna (Parma)

Tel. (+39) 0524-596711

Fax (+39) 0524-599084

www.taroplast.com

Customer service:

ITALY: (+39) 0524-5967 16

EXPORT: (+39) 0524-5967 23

FAX: (+39) 0524-5967 50



Taroplast S.p.A. ("the Seller") policy is one of continuous development and improvement and in line with that policy we reserve the right to implement improvements and alterations to our products from time to time without giving prior written notice to customers. Whilst all information contained in this publication is considered accurate to the best of the knowledge of the Seller all specifications, capacities, weights, measurements and other data and particulars relating to the Seller's goods set out in this brochure are approximate only. Performance figures are included only as an indication of past performance and do not constitute a condition, warranty or guaranteed a future performance. Customers must ensure and satisfy themselves that the products to be purchased will be fit for the particular purpose for which they intend to use them and in so far as materials not manufactured or supplied by the Seller are used in conjunction with, or instead of the Seller's products, it is the responsibility of the customer to obtain all technical data and information relating to such materials and to satisfy themselves that those products are suitable for use with the Seller's products and are fit for the purpose for which they propose to put them. No liability can be accepted in respect of the use of the Seller's products in conjunction with other materials. Employees, sub-contractors and agents of the Seller are not authorised to make any representations concerning the Seller's products and any advice or recommendation given by them to a customer as to the storage, application or use of the Seller's goods which is not confirmed in writing by a duly authorised officer of the Seller is followed or acted upon entirely at the customer's own risk, and the Seller shall not be liable for any such advice or recommendations if not so confirmed. The Seller does not accept any liability whatsoever arising out of the use of the information or the use, application, adaptation or processing of the products described herein.

Note: "This brochure annuls and replaces all publications issued hitherto."

Stand of the information 04.2012