



more than just materials

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A strong passion that became a solid reality

2Mila Compounds are tailor made products realized for different applications and different market segments such as Automotive, Electrical, Lighting and Appliances. They are based on Amorphous and Semi-crystalline polymers. Both have a long-lasting tradition in the above segments thanks to their technical and physical behavior. Characteristics that make them a valid alternative to traditional materials (metal, glass, wood).

2Mila, with more than 40 years experience in Technical Compounds, has matured the competence to propose tailor made products in accordance with the application needs. Products made around our customer specifications, which represent in most cases the perfect balance between quality and price, with a consistent approach to both.

Any standard quality compound we offer to the market can also have a **IQ** (industrial quality) version. But in contrast with many other generically classified "IQ" materials present in the market, the 2Mila **IQ** family is born with a clear philosophy behind and a clear goal: to provide specific answers to specific needs, including the reduction of CO₂ e weight in parts.



POLYMER CHARACTERISTICS – WHICH ONE DO I NEED?

The first choice we have to make when selecting a polymer for an application is, in the first place, the type of polymer morphology we need. This question offers two alternatives: Amorphous or Semi-crystalline. The success of our applications, as far as the material is concerned, depends most of the time on this first choice.

What do we know about them?

The **Amorphous** materials are known for not being influenced by moisture and have an extremely low anisotropy (shrinkage difference between the flux direction and crosswise to it) they have a very good, predictable, dimensional stability and the change of their rigidity in temperature is strictly linked to one temperature: the melt temperature. They have only one predictable HDT (Heat Distortion Temperature). Some of them have a good resistance to harsh environments, particularly where transparency and impact are at the top of the list (eg. Polycarbonate). The "**Amorphous**" are widely and successfully used in several technical parts such as: functional housings, water containers (including potable), measure bars and covers; where the perfect shape - square or round- and the planarity, are necessary.

Semi-crystallines are instead materials with a high anisotropy due to their combination of molecular chains distribution. Their stability is often influenced by moisture and by two different temperatures: the TG (Glass Transition) and the TM (Melt Temperature). They are very good in chemical resistance, ware, high electrical tracking resistance and their acceptance of fillers.

Semi-Crystallines, when reinforced with Glass fibres, can greatly improve their modulus in temperature and minimize the TG effects on dimensional stability.

Our constant attention to customer needs helps us to understand their urgency for product quality, delivery consistency and price convenience. We select materials and compounds according to the needs of the final applications.

OUR **IQ** COMPOUNDS ARE BASED ON:

AMORPHOUS

ABS
PC/ABS
PC

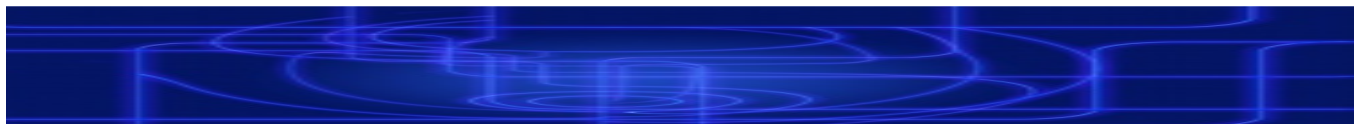
UNFILLED
GF FILLED
M FILLED
FR V0

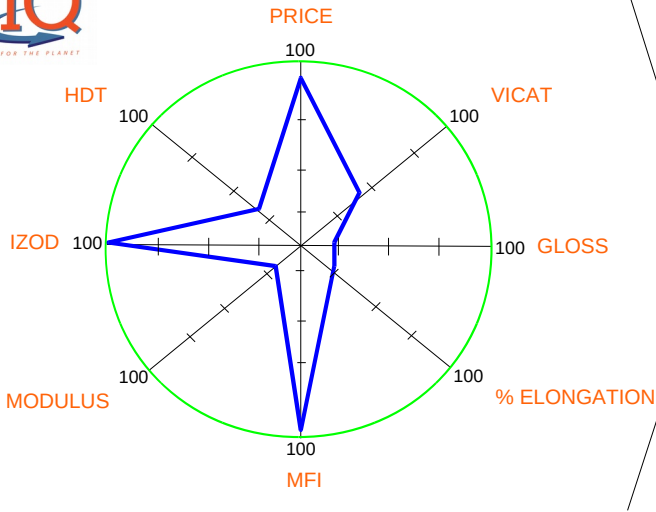
SEMI-CRYSTALLINE

PA6
PA6.6
PA12

Decades of experience gathered by working with moulders and OEMs in different industries make 2Mila Srl an excellent business partner when a competent raw material supplier is required to sustain your growth.

We select suitable materials and economical solutions to make tailor made proposals; this is our Company mission.





Find your perfect **IQ** solution to reduce the CO₂ content of your parts and to save money, safely.

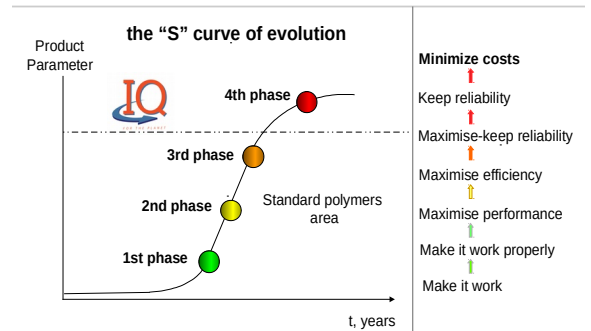
- IQ PC/ABS T65 and T85 H.I.
- IQ PC/ABS T45 L.H. + Surface
- IQ PC/ABS T65 H.I. (<0°C) + UV
- IQ PC/ABS T65 H.H, H.I. (<0°C)
- IQ PC/ABS 13% GF + Easy Process
- IQ ABS H.H, H.I. (<0°C) + UV
- IQ PC colored V0
- IQ PC GF colored V0
- IQ PA6 GF & Mineral V0 + Tracking

H.H. = High Heat – H.I.= High Impact – L.I.= Low Impact

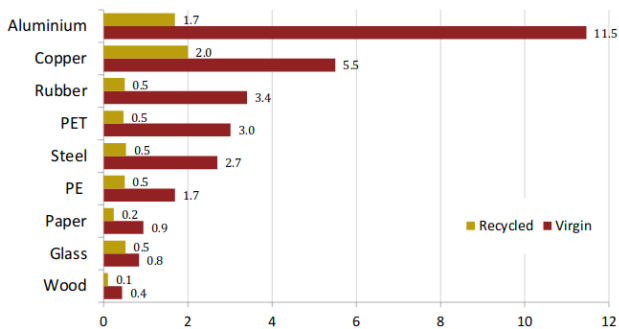
IQ IS A VIABLE SOLUTION TO SAVE MONEY!

The approach to an **IQ** version starts with a close cooperation between the customer and 2Mila technical personnel. They, together, draw down the 3 or 4 critical-to-quality technical performances that should be always present in any lot of material produced and shipped. Every shipment comes with a Certificate of Analysis (**CoA**) that shows the specific level of quality reached by that specific lot. The graph shows a possible agreement made for the specific **IQ** grade. In this case the interest was for: good impact resistance, nice MFI for an easy process and a more convenient price.

Every product in life has an evolution path. This evolution path was very well explained with the direct analogy made by Gregory Bateson who studied the life and evolution of bacteria colonies. Industrial products follow the same path, which brings them through 4 major phases: birth, infancy, maturity and obsolescence. The end of their life. After this phase other products will take their place. Of course each phase has its specific needs. In the graph beside (right column) we recall them. Each phase has an influence on the costs, but also on the selling price. When the end of the “S” curve is reached (Maturity – Obsolescence) the production costs and the margins become more and more stressed. 2Mila Srl devotes high attention to these needs. The **IQ** family is actually the result of such attention. This **IQ** family is born specifically to provide a precise answer to specific needs. It requires a change in the relationship between customers and supplier though. A more cooperative attitude versus the old “game”, which positioned the supplier on the other side of the table in negotiations.



Embodied Carbon of Virgin and Recycled Materials (kg CO₂e/kg)



Note: DEFRA, Fraunhofer Institute

shrinkthatfootprint.com

Today in this Circular Economy era we have one extra reason to consider our **IQ** family as alternative to standard Compound or as an integration to them. The reduction of the CO₂e content in our final parts.

The “green evolution” toward the full Biopolymer answer has increased the attention on the LCA of polymeric materials. Fossile products are considered as an important source of CO₂e emissions. But they remain far below the amount of carbon dioxide emitted by more traditional materials. Recent studies have brought to light that for the making of a recycled polymer the quantity becomes even lower. Of course not every recycled material can compete with fresh polymers. This is the reason why we created the **IQ** alternative to standard recycled and reprocessed polymers. To have the best performance with the best CO₂e reduction at the best price,



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