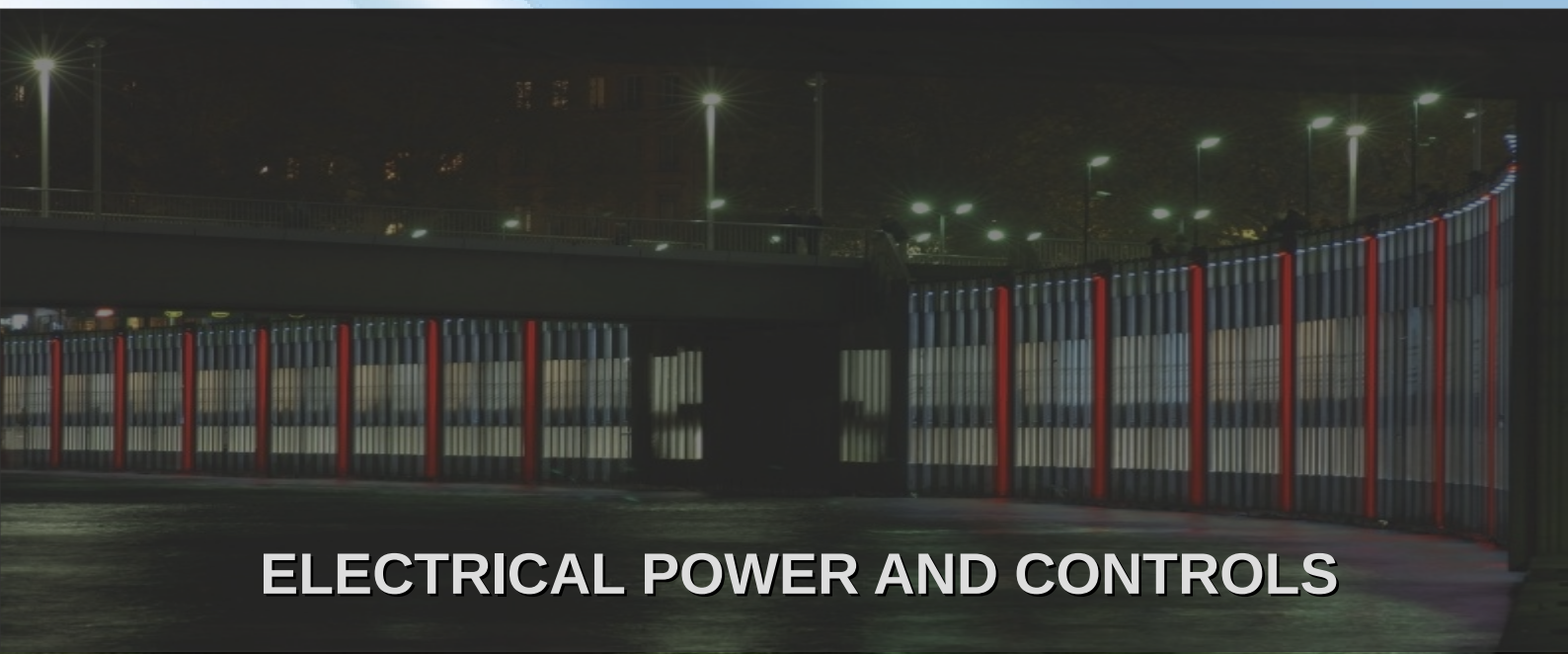


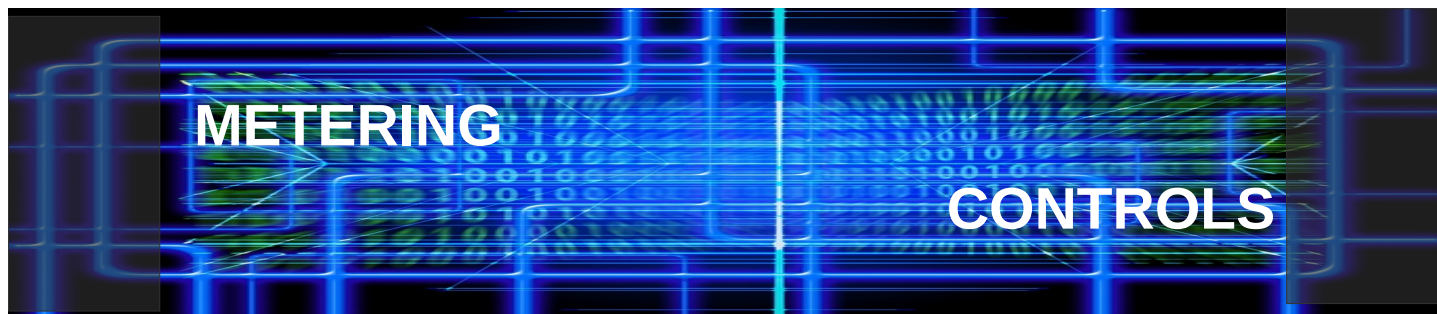
Xvalue[®]
Polymeric Compounds



ELECTRICAL POWER AND CONTROLS

DUE
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A strong passion that became a solid reality



Decades of experience achieved by working with moulders and OEMs in different industries, including Automotive Lighting, Appliances and many more, make 2Mila Srl an excellent business partner when a competent raw material supplier is required to sustain your growth. To select perfect material-solutions and offer you tailor made compounds, **is the mission of our Company.**

***“Tell us your needs, we are
ready to listen”***

Our constant attention to customer needs helps us to understand their expectations in terms of product quality and price. Our materials meet the needs of very demanding markets, such as Metering and Control. We are committed to deliver tailor made products and services for the best success of our customers and their technical applications.



Some Electrical and Lighting OEMs have to declare that they adopt, or use, only Halogen Free flame retardant materials for their products. Often this declaration is necessary to comply with public energy supply requirements.

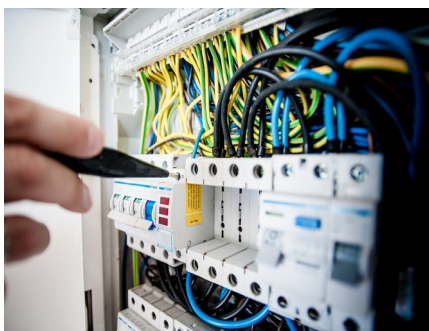
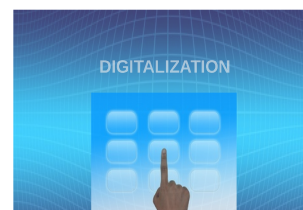
2Mila Srl is prepared to answer this growing need with its new family of products called: **Xvalue® Polymeric Compounds.**

A product family that represents the synthesis of our market experience.

The new family, made for injection moulding technology, is based on amorphous and semi-crystalline materials such as Polycarbonate and Polyamide 6 : materials widely known and used in Electrical, Electronic and Lighting applications.

Electronic metering and control systems are increasing their efficiency and safety thanks to digitalization. This evolution is now entering in other Low Voltage systems.

This innovation is a “door opener” for a new season of inter-material-competitions thanks to an overall heat reduction in Electrical control systems.



Chlorine, Bromine and Fluorine flame retardant systems are losing their appeal in the Electrical segment. These chemicals called “Halogens” must be reduced to zero to comply with the new market rules.

***“Halogenated flame retardant systems are
losing their appeal in the Electrical segment”***

The Halogen Free classification is considered an added value for Electrical and Lighting players, especially if they are working for the Public Segments.

The fire behaviors and the quality of the smoke in case of accidental fire, remain an important topic for the safety of people and buildings. Speaking commercially, the Halogen Free materials can reduce the “entrance barriers” in E/E public specifications.

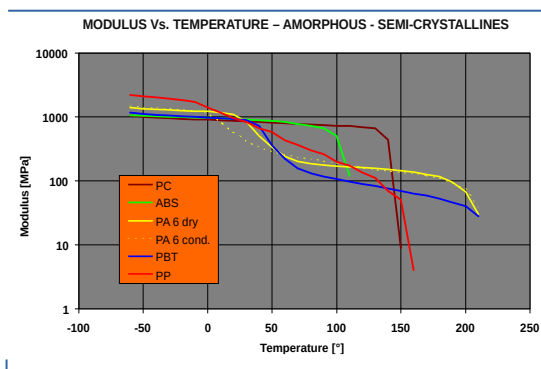


Amorphous and Semi-crystallines Polymers have a historical fit in **Electrical, Electronic and Lighting** applications versus traditional materials, thanks to their wide variety of properties. Among them, Amorphous are particularly appreciated for metal replacement when a specific geometry must be obtained and maintained; they also express very predictable behaviors in tight tolerance situations. These polymers are not influenced by moisture, and this is an advantage for final parts that require high dimensional stability. Low anisotropy is a key property for: electrical **junction boxes**, generic **enclosures** and **electric meter** housings; where usually a cover needs to be joined to a base and the base can retain several components with tight tolerances.

Dimensional stability is crucial for Electric technical applications. It can be influenced by two main factors: temperature and the moisture uptake. The latter can be a threat for unfilled Polyamides if tight tolerances are required. Another threat comes from the high anisotropy typically expressed by the semi-crystalline polymers during shrinkage. This is one of the reasons why PAs are often reinforced with Glass fibres, or a mixture of Glass and Minerals. The addition of Glass fibres increases the HDT of a polymer but doesn't change its natural behavior (they keep two deflection points, one for the TG and the other when TM is reached). As a natural fact Amorphous polymers have more predictable behaviors in temperature. Their stability up to their "TM" (Melting Temperature) is an important resource for Designers. The graph below shows the loss of modulus in temperature of some well known standard unfilled polymers.



**"The market trend
in the Electrical field
goes toward lower heat
thanks to digital controls.
This will improve the natural
fit of Amorphous Compounds"**



Compounds For the Electrical Market

Xvalue® Polymeric Compounds based on **PC** (Polycarbonate) reinforced with **10%, 20% or 30%** of Glass fibres, offer high dimensional stability to final parts while reducing the creep sensitivity under load. These materials satisfy specific Electrical requirements such as: **trustworthy dimensional stability**, low creep in temperature, **UL94 V0** rate, **Halogen Free** flame retardancy and improved MFI (Melt Flow Index). As a natural fact, a good flow reduces the overall machine pressure need during the injection phase and allows a higher control during the packing (cooling) phase in complex tools.

Xvalue® Polymeric Compounds are available in Amorphous and Semi-crystalline (Polycarbonate, PC/ABS and Polyamide 6). They are standardly made in typical Electrical Grey RAL 7035 colors. But, on request, they can be compounded in any colour according to the needs. Grey Ral 7035 and Black colours are considered as standard.



Depending on the application, they can also be reinforced with **Glass fibres** or **Mineral fillers**. They comply with UL 94 V2 and V0, with a GWFI of 850°C and 960°C. Their Comparative Tracking Index (CTI) varies from 150V (GF PC) up to 600V (PA6).

The unfilled Semi-crystalline Polyamide 6 has a historical fit in the industrial plugs and socket market. It fulfills the key requirements imposed by the IEC60309 norm due to its electrical insulation characteristics, chemical resistance, cold impact behaviors and natural UL94 V2 flame rate. These applications are characterized by the need for a large variety of RAL colors. This new **Xvalue® PA6** unfilled family has been developed to help OEMs and Moulders when confronted with a large number of colors (each color indicates the allowed power of each connector) with a different yearly consumption (volume) by color.



The **Xvalue® Polymeric Compound** based on **PA6** is available in each typical **RAL color** (Red, Blue, Yellow, Orange, Grey, Black, Purple, Green) quickly and with the necessary quantity, starting from 100 kg.

Xvalue® Polymeric Compounds
offer an Extra Value to Electrical, Electronic and Lighting parts Producers.

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