



APM
Advanced Polymer
Materials s.r.l.

Who we are

APM s.r.l. is a university Spin off, which has been recently founded thanks to the collaboration between the University of Ferrara, the National Research Council and the company Imperial S.r.l., for the development of new polymeric materials and for their technological transfer in the production of composites and polymeric coatings.

Our skills

The staff of the Spin off is made up by industrial chemists and mechanical engineers with a long experience in the synthesis, chemical modification and advanced characterization of industrial polymers and composites for structural applications and for biomedical use.



- Press for the production of prototypes of laminates, films and plates

Our activities

APM specialises in the technological transfer of industrial applications with thermal and photo-initiated polymerization of epoxy, unsaturated polyester, phenolic, multiacrylic and ureic resins for the production of coating materials, structural adhesive materials, polymeric composites with glass and carbon fibers. Besides, APM has gained much experience in the chemical, thermal, mechanical, morphological and rheological characterization techniques used in the quality tests of production processes of polymeric materials, also due to the collaboration with many companies of this sector.

Our services

- New methods for the chemical and physical characterization of industrial resins for the production of composites
- Thermal analysis of semi-crystalline polymeric materials, reticulated elastomers and polymeric compositions
- Spectroscopic methods for on-line testing during the production
- Analysis of the mechanical and dynamic-mechanical behaviour of multilayer films, of plates and of composites
- Analysis of the rheological behaviour for the optimization of extrusion processes of thermoplastic materials
- Development of new photopolymerizable compositions and their technological transfer for varnishes, inks and adhesive materials
- Identification of additives, such as stabilizers, mineral fillers, pigments and rheological modifiers used in the production of polymeric products
- Chemical synthesis and modification of industrial polymers and monomers for the development of polymeric materials for special uses
- Prototypes for compression moulding of plates, films and laminates, to be technologically transferred to industrial productions
- Preparation of technical reports, patent researches and training courses for staff with technical and scientific degrees



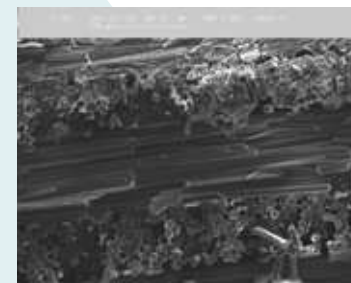
Technology and Equipment

APM uses the equipment for the characterization of polymeric materials available at the Institute of the Organic Synthesis and Photoreactivity (ISOF-CNR), of the Institute for Composite Materials and Biomaterials (IMBC-CNR) and of the Chemistry Department of the University of Ferrara. This equipment can be used for:

- DMTA, DSC and TGA characterization of thermoplastic and thermosetting polymeric materials
- Analysis of polymerization conditions with DSC and Photo-DSC techniques FTIR and photorheometry of photopolymerizable compositions
- Rheometry of thermoplastic and thermosetting polymeric materials
- FTIR-ATR, FTIR-DR, FT-NIR and CIELab quality control
- Morphological analysis with optical and scanning electron microscope (SEM)
- Tensile, compression and flexural mechanical tests, in compliance with ISO and ASTM norms for industrial polymeric materials
- Development of chromatographic methods (GPC and HPLC) for the identification of additives and of the distribution of the molecular weight of polymers
- Prototype creation and technological transfer of compositions photopolymerizable through UV radiations
- Production with 10 MTons hydraulic press of laminates with glass and carbon fibers and moulding of films and plates of materials for thermoplastic polymers

Our clients

- Polynt s.p.a., S.Giovanni Val.no (Ar)
- Kiiian s.p.a., Como
- Solvay Benvic, Ferrara
- Costchem, Masson Vi.no (Vi)
- Viabizzuno s.r.l., Bentivoglio (Bo)
- Svecom Energy, Vicenza
- Refri, Reggio Emilia
- Enia, Reggio Emilia
- Prialpas, Verona
- Imperial s.r.l.
- Pirelli Labs, Milan
- Reglass s.p.a., Minerbio (Bo)



• *Orthotropic laminates in carbon fiber pre-impregnated with epoxy resins*



Legal Representative
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