

THERMOPLASTIC COMPOUNDS REPLACING BRASS IN PIPES, TAPS AND FITTINGS INDUSTRIAL SECTOR

Industrial and social growth of the Far East and emerging countries has increased the consumption of metals to unexpected levels.



The ones absorbed with greater intensity are mainly steel, aluminum, copper and its alloys, implying a consequent price increase as well as a decreased availability of assets on the international market. Looking at the price of copper, in the last four years the cost per ton has almost quadrupled, from the US\$ 1700 of 2003 to US\$ 6500 by the end of 2006.

The reduced offer of metals, long delivery times and higher prices have created serious issues, causing production and time to market problems for ongoing projects.

The price evolution of copper has obviously generated severe difficulties for its alloys, in particular for brass, whose cost, in 2004, has increased by over 20% causing an unavoidable downturn in the finished product

market and related exports. The latter is a dramatic issue, considering the position of European manufacturing in the field of pipe fittings, taps, hydraulic and pneumatic valves.

To avoid a process which appears not to have immediate solutions, the substitution of brass becomes a vital passage in order to maintain a leading position in the market and guarantee business continuity.

Not an easy goal for sure, anyhow feasible if innovation comes together with qualified business partners, able to provide the necessary experience and competence in the field of technical plastic materials, the most immediate alternative to metals.

LATI, European leader in special thermoplastic compounds, is collaborating with several Italian and foreign companies on replacing brass and other metals, in particular in the pipe fitting manufacturing industry.



Working with the correct base resins, duly reinforced and stabilized, it is possible to engineer products offering a mechanical performance similar to metals but at lower costs and with simpler and faster production processes.

LATI's products are intended for injection moulding, a technique that allows the finished parts to be obtained with a single operation, reducing further finishing steps and the impact on price of scraps handling and disposal.



LATI's proposals are as follows:

1. LATAMID and LATIGLOSS: PA66 reinforced up to 60% with glass fibre. The best offer in terms of price/performance, guarantees a mechanical resistance comparable to aluminum. The load at break is close to 220 MPa, a value close to the one of different metals and alloys, chemical resistance is excellent as well as toughness and impact strength. LATAMID formulations are suitable for use in the pneumatic valves, in the thermosanitary sector to produce

casings and actuators, controllers and pumps, wherever a high mechanical performance and reasonable costs are needed.

LATIGLOSS grades offer the same mechanical and thermal properties of LATAMID but surface finish can be vastly improved avoiding typical aesthetic issues due to the presence of glass or carbon fibres.

LATIGLOSS are available on brass or aluminium pigmentations to make plastic parts look like metal.

2. LARAMID: aromatic polyamide, for the same applications of LATAMID but with marked mechanical characteristics, mainly in terms of load at break and thermal performance.

Low moisture absorption and high chemical inertness make LARAMID ideal for applications at high temperature and in presence of water vapor and aggressive water additives.

3. LARTON: PPS reinforced up to 40% with glass fibre, ideal for improved dimensional stability applications, and to guarantee a constant performance in time also with the most severe working conditions in terms of temperature and chemical attack.

Thank to its internal technical and design service, LATI is able to assist its Customers in the substitution of metal with FE structural analysis, codesign and engineering support as well as tailor made compounding.