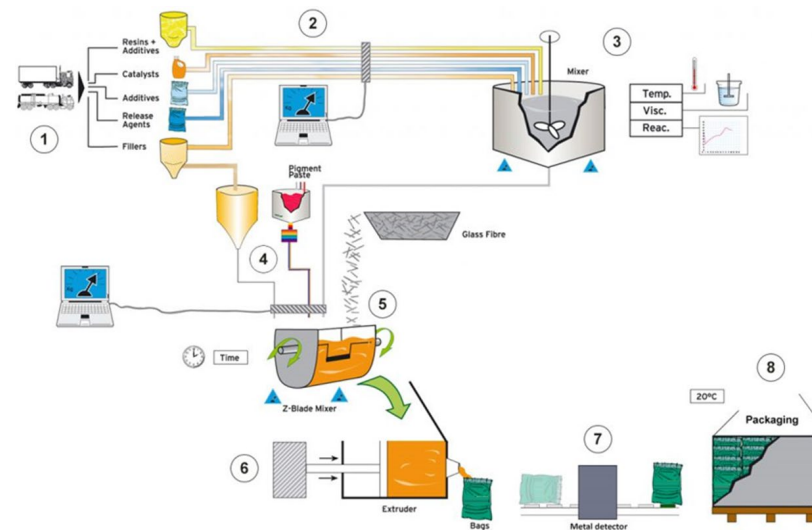


What is BMC?

BMC (Bulk Moulding Compound) is a thermoset plastic resin blend of various inert fillers, fiber reinforcement, catalysts, stabilizers, and pigments that form a viscous, 'puttylike' injection molding compound. The resin is generally made of unsaturated polyester (UP) or vinyl ester (VE).

How is this made?

Firstly resin, mineral charges, and various additives are mixed. This initial mix goes to a second mixer where pigments, more fillers, and fiberglass are added. Once all the components have been mixed, it is pressed and packaged in bags of about 15 kg, which are used to feed the injection machine.

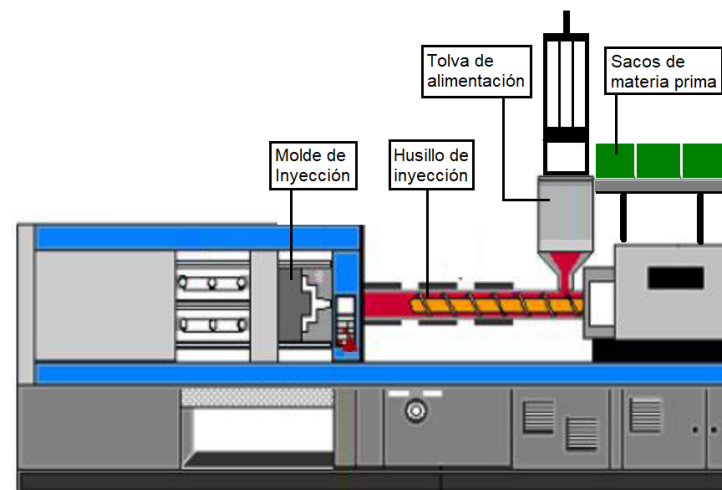


How is the BMC transformed?

The BMC can be transformed by compression or by injection. The main advantages of injection over-compression are that the manufacturing process is automatic, the cycle time is shorter, and therefore the production capacity increases.

BMC injection process:

The fiberglass-polyester blend bag is opened and deposited into the machine's feed hopper. From the feeding hopper, it passes to the injection screw which is tempered at around 30-35°C. Once the closure of the machine is applied, the load of the spindle passes to the mold that is heated between 140-160°C, where the material reacts by temperature and pressure. After the material's curing time has elapsed, the mold is opened and the piece is extracted. Because the material is very fluid and that it needs certain areas of overflow in the mold, the pieces require a final finishing process.



Main advantages of BMC pieces:

Composite materials are a superior design option for many applications. With their ability to design and adopt complex geometries, their dimensional stability, and their high strength-to-weight ratio, composites are cost-effective replacements for many higher-cost materials. The main structure of the BMC retains its properties since it does not undergo state transitions (gas/liquid/solid) once transformed and provides a multitude of advantages, such as:

- Heat resistance (continuous working temperatures of 200°C).
- High resistance-weight ratio.
- Chemical resistance.
- UV resistance.
- Corrosion resistance.
- Low moisture absorption.
- Electrical and thermal insulation.
- It is not magnetic.
- Dimensional stability.
- Low contraction.
- Design flexibility.
- Low smoke emission and self-extinguishing degrees.

Main sectors for BMC parts:

Various sectors and markets, such as household appliances, electrical, industrial, or automotive, among others, are interested in the demanding advantages of BMC-injected parts and the high quality they provide:

- Home appliances: components for irons, ovens, heaters, etc.
- Electrical/electronic: low and medium voltage switchgear, connectors, switches, etc.
- Automotive: reflectors, battery housings, insulation panels, under-hood components, charging connectors for electric vehicles, etc.
- Food: Applications in contact with food.