

Compression Moulding Dough Moulding Compound (DMC)

Dough moulding compound (DMC) is an uncured dough-like thermoset compound used to make glass reinforced plastic (GRP) products. It is formed into products by compression moulding. Compression moulding involves placing a measured amount of DMC into a heated mould, then forcing it into the mould cavities using a heated plug. The heated plug and mould softens the DMC and allows it to flow into the mould cavities. After a few seconds, heat from the plug and mould begins to cure the DMC, which solidifies and hardens. The whole process takes up to about 3 minutes to complete. This is called the cycle time.

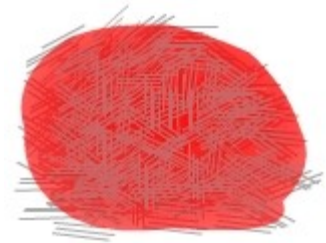
Compression moulding is an excellent method of making lots of identical GRP products. The tools required are:

- a mould (of the part that will be moulded)
- a plug that will force the dough moulding compound into the mould
- a mechanical or hydraulic press that will close the mould, (i.e. that will force the plug to push the dough moulding compound into the mould).

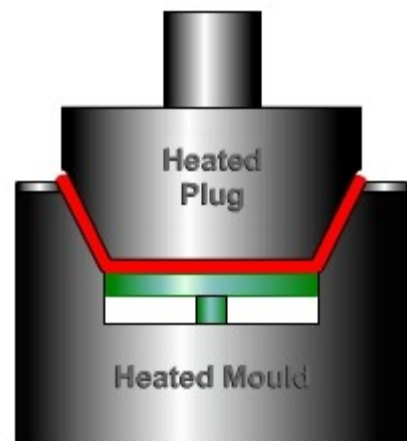
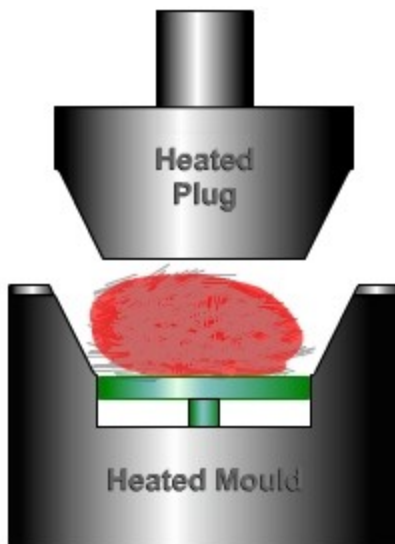
Dough Moulding Compound (DMC)

Dough moulding compound (DMC) is a dough-like substance that is composed of:

- resin, (unsaturated polyester resin, or epoxy resin)
- chopped glass fibres, usually up to 12.5 mm long
- inert fillers (e.g. calcium carbonate)
- a catalyst
- a release agent
- other additives that will give the DMC its required physical and chemical properties.



The DMC Moulding Process



The compression moulding process has four main stages:

1. **Charging the mould with DMC.** A measured amount of dough moulding compound is placed into the heated female mould, (the yoke).
2. **Closing the mould.** The heated male side of the mould (the plug) is closed, forcing the dough moulding compound into the mould cavities. Heat from the mould initially softens the dough moulding compound so that it flows into every part of the mould very accurately, then it cures the compound.
3. **Curing the compound.** The mould stays closed until heat from the mould cures and hardens the compound, usually within about 2 - 3 minutes.
4. **Ejecting the product.** When the DMC has cured and hardened sufficiently, the plastic moulded product is ejected from the mould.