

## PROCESSING OF BONDDISC PHENOLIC MOULDING MATERIALS

Moulded components can be produced from **BONDDISC** grades by 'compression', 'transfer' and 'injection' moulding techniques.

**Prior to moulding, we recommend that the bag be inverted several times to ensure that the material is well mixed as contents can sometimes settle in transit.**

Pre-pelletising (cold) of the powder is possible in automatic or manual machines.

Preheating by radio frequency, infra red, drying ovens, etc., can be employed immediately prior to moulding; or extrusion/preplasticisation can be used.

The nature of the fillers incorporated can have some effect on the above processes. For example, long fibres, bulky materials may not automatically feed; conducting fillers such as graphite or aluminium powder may create preheating problems. Individual data sheets for each **Bonddisc** grade should indicate this.

The selection of the best processing procedures is very important in producing economic, quality mouldings and these should be established for each component. However, the table below gives some guidance to general conditions.

### Compression Moulding

Mould Temperature	-	150 - 180°C
Compression Mould Pressure (min)	-	150 bar
Curing Time (4mm section)	-	40 - 60 secs

### Transfer Moulding

Mould Temperature	-	150 - 180°C
Compression Mould Pressure (min)	-	400 bar
Curing Time (4mm section)	-	40 - 100 secs

### Injection Moulding

Barrel Temperature	-	70 - 90°C
Screw Temperature	-	60 - 80°C
Nozzle Temperature	-	85 - 110°C
Mould Temperature	-	150 - 180°C
Injection Pressure	-	800 - 2500 bar
Screw Back Pressure	-	50 - 300 bar
Injection Speed	-	5 - 10 secs
Curing Time (4mm section)	-	20 - 40 secs

Jigging of the hot moulding when ejected from the tool, can be employed to achieve improved dimensional stability or accuracy.

Post stoving of mouldings is occasionally employed where exposure to high temperature is envisaged. Temperature and temperature gradients employed depend on the type of material, the thickness of section and the ultimate exposure required. This should be found by trials. Temperatures ranging from 130°C to 220°C are involved.