

overtec 
low cost moulding





To overmould components using the Overtec system, first open the mould set and place the component inside. Next, load an **Overtec 5 FR** resin stick into an appropriate applicator, like the **Overtec 820-15**, switch on and allow it to reach operating temperature.

Securely close the mould shut with the component inside. Place the nozzle of the applicator into the injection hole in the side of the aluminium mould, and dispense the liquid resin, fill the mould as quickly as possible and maintain trigger pressure for 5-15 seconds, after filling to reduce shrinkage.

The resin will set within a few seconds. The mould can be opened and the newly-overmoulded piece removed. The finished component cost, capital outlay, and time to market can be reduced significantly with the **Overtec** moulding system.

Overtec moulding system

The **Overtec** system is a low-pressure moulding process that uses thermoplastic moulding resin to achieve high quality sealing and protection of components, faster than 2 component potting resins and far lower capital cost than injection moulding.

A process innovation positioned between casting and injection moulding technologies, the **Overtec** system utilises a low injection pressure that means fragile or delicate components can be encapsulated and protected with no risk of damage. The **Overtec 5 FR** resin sticks simply need to be loaded into the **Overtec 820-15** glue gun and allowed to reach operating temperature before use, resulting in a simple and clean process with fast cycle times.

Overtec 5 FR is a high-performance moulding resin that is solvent free and composed primarily of renewable materials, making it environmentally friendly. There is no time consuming and wasteful mixing or shelf life issues. The properties of this material mean that it can offer water-tight encapsulation, water and chemical resistance, and excellent upper and lower heat resistance.

The **Overtec** low-cost moulding system eliminates the need for traditional housings and casings used in potting, it also saves energy by eliminating the heat curing process. There is no need for slow and wasteful 2-part potting or casting resins, meaning costs can be cut. Low cost tooling is made from aluminium which is easy to mill, drill and spark erode. It has good thermal conductivity meaning it is the ideal material from which to make the mould sets. Moulds made of aluminium usually have a long life-span, aided further by the lack of abrasive or corrosive ingredients within **Overtec 5 FR**. These moulds cool the component quickly and allow easy release of the moulded pieces when the process is complete. Use of mould release sprays can further assist de-moulding.

The most popular applications for the **Overtec** moulding system are



electronic component encapsulation, connector potting, grommet injection, automotive electronics, PCB overmoulding, moulded connectors and sensors, and many more. In many cases, the moulding can protect the various components against environmental conditions, help to obtain strain relief, and keep the moulded part in the correct position for use.

The process couldn't be simpler: load an **Overtec 5 FR** resin stick into the **Overtec 820-15**, switch on and allow it to reach operating temperature. Place the nozzle of the gun inside the hole in the side of the aluminium mould, and dispense the liquid resin, fill the mould quickly trying to keep the flow consistent. When the mould is full, the trigger action of the glue gun will harden, but pressure should be maintained for a few seconds to prevent any shrinkage. The resin will set within a few seconds, by which time the mould can be opened and the newly-overmoulded pieces removed.

The finished component cost, capital outlay, and time to market can be reduced significantly with the **Overtec** moulding system.



Overtec 820-15

Adjustable temperature, heavy duty medium size 15mm ($\frac{5}{8}$ ") glue gun. Robust and easy to use, fast recovery, medium output, 2 minute warm-up time & illuminated on/off switch.

| | |
|---------------------|-------------------------------------|
| Melt rate | 2.5kg (5½lbs)/hr |
| Glue size | 15mm ($\frac{5}{8}$ ") glue stick |
| Voltage | 120V and 230V |
| Wattage | 300W |
| Heater | Cartridge |
| Temp Control | User adjustable thermostat |
| Hotmelt gun °C (°F) | Adjustable 155-220°C (310-430°F) |
| Power cable | 3m (10 ft) |
| Weight | 500g (18oz) |
| Packaging | Plain box (10 per ctn) |



Adjustable temperature

Overtec 5 FR moulding resin

Overtec 5 FR is a brand new polyamide moulding resin specifically designed for use in overmoulding. With UL 94 V0 flammability rating, this highly mouldable material has excellent electrical properties.

Overtec 5 FR has excellent chemical resistance and thermal durability, with an upper heat resistance of 135°C (286°F), and a lower temperature flexibility of -35°C (30°F). **Overtec 5 FR** has good chemical and water resistance, in addition to excellent electrical resistance and dielectric strength. It is an excellent fire retardant, rated to UL 94 V0 flammability. **Overtec 5 FR** also provides a higher output than many casting applications, reducing cycle times and labour costs.

Overtec 5 FR is available in 15mm x 250mm ($\frac{5}{8}$ " x 10") sticks, packed in 5kg (11lbs) cartons or 10 x 6 stick foil packs. The 15mm ($\frac{5}{8}$ ") diameter sticks allow higher volumes of resin to be dispensed with each trigger pull which, in turn, allows the user to fill the mould faster, thereby decreasing the likelihood of defects within the moulded objects.

A quality, high output glue gun that can deliver this resin at a constant temperature should be used to achieve consistent overmoulding. We would recommend the **Overtec 820-15** glue gun set is set at the highest possible temperature to maximize flow around the component. The temperature can be reduced if shrinkage is too great on larger volume applications. We recommend that users adjust the temperature to suit their application requirements.



| Reference | Description |
|--------------------------|--|
| OVERTEC5FR-15-250 | Black 10 x 6 stick packs |
| | Black 2 x 2.5kg (5½ lbs) packs in 5kg (11lbs) carton |



Metal gun stand



The optional metal **tec** stands are ideal for when the glue gun is being used repetitively at a work station, making it a convenient repository for the gun between applications.

| Reference | Description | Overtec 820-15 |
|-----------|--|----------------|
| MDC009 | For heavy duty tools 600 & 800 series (can also be wall mounted) | ■ |

TEC MAT



This silicone rubber drip mat, size 200mm x 200mm (8" x 8"), can be used underneath the repair pistol to protect work surfaces against damage caused by molten repair material.

| Reference | Description | Overtec 820-15 |
|-----------|--|----------------|
| TEC MAT | Silicone rubber drip mat protects work surface | ■ |

Spring Balancer



If the tool is being used for repetitive work over a work surface, then the TEC SB/1200 Spring Balancer is an economic tool support system with easily adjustable tension control. Capable of supporting tools up to 1.5 kilos (3.3lbs) in weight, it has a maximum extended cord length of 1.6 metres (5ft). Designed to minimise operator fatigue, it also increases productivity and reduces the chance of accidental damage to the applicator. Other models also available for balancing heavier weights.

| Reference | Description | Overtec 820-15 |
|-----------|--|----------------|
| SB/1200 | Spring balancer for tools up to 1.5kg (3lbs) | ■ |



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