



Labelling



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Unique in hot melts

Information from **Beardow Adams**
Unique in hot melts

Using hot melt adhesives in building panels and components

Permanent or temporary hot melt adhesives can be used in the production of panels and components for the building industry. They can be used for light, medium or heavy-weight products.

Hot melts for product assembly can be divided into *pressure sensitive* adhesives from our **Pressen** range and *conventional* hot melt adhesives (those which lose their tack) from our **Prodas** range.

Panels and components

Building panels with complex laminated and bonded structures are classic applications where hot melts can help to improve productivity and reduce costs.

Examples include insulation foam (pre-formed sheets or injected polyurethane), wood boards, wood laminates, foil laminations and sheet metal – steel, aluminium or zinc.

Likewise, the small, pre-fabricated components that are speeding up building processes and helping to improve the overall quality of buildings can also benefit from using hot melts – recent examples where hot melts have proved invaluable in their manufacture include a plaster angle bead device and insulated cavity closers.

Benefits of hot melt adhesives

Hot melt adhesives are 100% solid thermoplastic materials available in a variety of forms.

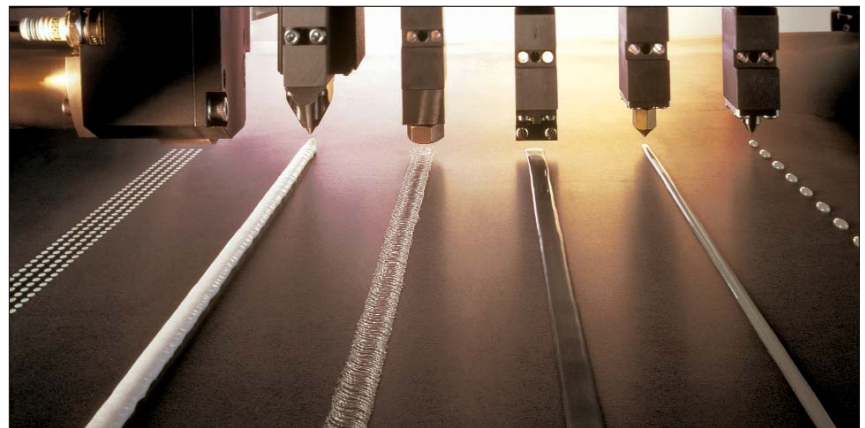
They are applied as a melt to form a bond – strong or weak depending

upon formulation – to a wide variety of substrates. They can create an instant bond or have a longer open time to allow bonding down the production line.

Easy, safe, reliable

Hot melts are neither hazardous, toxic nor flammable and do not

Hot melt adhesives can be applied in a variety of ways – left to right: roller coater, spray (as foam or swirl), slot coater or jet (as a solid or intermittent bead). Application can be automated or manual to suit production requirements.



contain solvents, making their handling, storage, transportation and use easy, safe and reliable without harming the environment.

They will bond almost any material, pervious or impervious, including plastics, rubbers, metals, composites, glass, ceramics, fibreboard, fabrics, wood, leather, foams, paper and board.

Choice of application methods

There are several methods of applying hot melts – manually with hand guns or through fully automated systems that apply precise amounts of adhesive and use slot, roller, jet or spray nozzles to suit the adhesive and the application.

Hot melt adhesives in action bonding construction materials

Case study one – UK

Application *Fabrication of Cellcore anti-heave panels.* PRESSEN 1835 is used to bond an EPS panel to an EPS honeycomb structure and a PP board.

Cellcore is one in a range of patented products for the construction industry made by Cordek of West Sussex, England – Beardow Adams has been its major supplier of industrial hot melts for nearly ten years.

The panels comprise a honeycomb of interlocking expanded polystyrene (EPS) sections with a solid top board, all manufactured to exacting tolerances and designed to deal with the forces created by ground movement.

Cellcore CP incorporates a heavy duty EPS panel over a honeycomb structure and is protected by a 2 mm polypropylene (PP) top board. PRESSEN 1835 is used to bond the honeycomb to the EPS panel and the EPS panel to the PP board.

The adhesive is an environmentally neutral, solventless pressure sensitive hot melt with sufficiently long 'open time' to remain molten during complex application procedures, as typified at Cordek. It is clean running, will not 'string' and has minimum odour.

Case study two – Denmark

Application *Industrial roller gates and doors.* Bonding aluminium to PUR foam with PRESSEN 983.

Aluminium plates are bonded to both sides of a hard PUR foam core with PRODAS 983, which is applied as a swirl-spray. A roller applies pressure

to the bonded materials one to two minutes later to complete the process.

In a typical customer evaluation, several pressure sensitive hot melts and conventional based hot melt adhesives were tried, with the bonds being subjected to heat testing.

PRESSEN 983 withstood 85 °C and has been in use since late 2006 without complaint.

Case study three – Spain

Application *Sound deadening.* PRODAS 946 is used to bond cotton fibre to bitumen coated polyethylene film.

The hot melt is sprayed on to the polyethylene via an automated system. PRODAS 946 has good heat resistance and sufficient open time to enable the Spanish manufacturer to coat the polyethylene and then laminate it to the cotton fibre in large sections.

Case study four – Italy

Application *Roofing panels.* Bonding expanded polystyrene foam to aluminium or zinc with PRODAS 873.

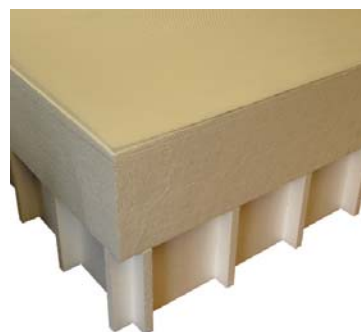
The panels comprise a corrugated metal sheet outer bonded to an expanded polystyrene foam (EPS) inner, the foam acting as insulation.

PRODAS 873 is applied to the metal on an automatic line as a bead or foam application. It was selected for being fast setting, having very good mechanical resistance and adhesion without a primer or surface treatment.

1 and 2. Cellcore CP anti-heave panels. All the components – EPS and PP – are bonded with Beardow Adams' PRESSEN 1835 hot melt adhesive. The panels have been laid at Heathrow's Terminal 5; many are now 20m below ground – see case study one.

3. PRODAS 946 is used to bond cotton sound deadener to bitumen coated polyethylene film – see case study three.

4. PRODAS 873 is used to bond expanded polystyrene foam to aluminium or zinc roofing panels – see case study four.



1.



2.



3.



4.