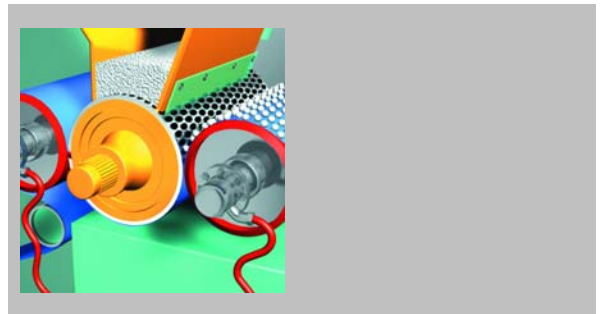


VESTAMELT®

Thermoplastic Copolyamide Hotmelt Adhesives

- **Powder Dot**



Powder Dot Process

Application

The powder dot process is a gravure printing process. The web of liner material is heated to about 170–220 °C by winding it around a steel roller heated to this temperature range. Together with the fabric, this roller is pressed against a 30–60 °C hot printing roll, which contains the thermoplastic powder in its dot-like wells (dot row roller engraving). A doctor blade with a hopper applies the powder into the wells.

The printing roll (engraved printing roller, dot roller, cup roller) immediately presses the powder in the wells onto the warm web of lining material, producing surface melting and agglomeration of the powder and emptying the cup-like wells of their powder. This agglomeration and/or subsequent irradiation with adjustable-height IR radiators sinters the powder grains of each pile of powder, making it sticky and anchoring the powder grains firmly to the web of lining.

The IR rays furthermore ensure that a smooth hemispheric surface will form on the dots of adhesive.

Particle sizes

The powder dot coating is performed with special grain fractions as a function of the screen used. Powder with particle sizes between 80 and 200 µm (P2 powder) is preferred for 11–17 mesh engraved rollers. Engraved rollers with 25 to 40 mesh require powders with a finer grain fraction (0 to 80 µm and 0 to 120 µm, respectively).

The powder dot process is used mainly to coat lining materials that are not sensitive to thermal stress, such as materials made of natural fibers. It is necessary to match the adhesive powders carefully to the surface texture of the material, the dot image, and the final adhesive properties in order to obtain a good balance between them. The following parameters, for example, affect the running properties, the application weight, as well as the dot image:

Machine parameters:

- Engraved roller
- Heating roller temperature
- Engraved roller temperature
- Running speed

Powder parameters:

- Melting points
- Melt viscosity
- Particle distribution
- Fine fraction
- Bulk weight

VESTAMELT® Copolyamides

VESTAMELT®	Properties, Suitability
250-P2	High resistance to temperature, washing and dry cleaning, good adhesion, higher fusing temperatures
350-P2	Standard adhesive for ladies and men's wear, multi-purpose grade
450-P2	Low melting point, good resistance to strike back, low fusing temperature
730-P816/20	Low melting point, low melt viscosity, very good adhesion to surfaces that are difficult to fuse such as siliconized fabrics
750-P2	Low melting point, higher melt viscosity, good resistance to strike back, good adhesion, good resistance to washing and dry cleaning
753-P012	Similar to grade 750, but with especial particle size and finishing for fine dots, decreased tack after coating
753-P016	
840-P012	Wide fusing range and high resistance to steam, multi-purpose grade for textiles
840-P816/20	
840-P2	
X1301-P2	Wide property standards, wide fusing range, good adhesion, very good resistance to washing and hydrolysis, soft feel

Particle sizes:

P012 = 0 to 120 µm,

P016 = 0 to 160 µm, P816/20 = 0 to 160 µm + 20 % P1 (= 0 to 80 µm)

P2 = 80 to 200 µm

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