KIWOPRINT® D 158

1. DESCRIPTION

Water based, acrylic pressure sensitive adhesive

KIWOPRINT D 158 is a high quality pressure sensitive adhesive used for the production of self adhering materials made of cardboard, rigid PVC, rubber, industrial foams, and lacquered surfaces. Very good adhesion to polyester and polycarbonate, polyethylene, polypropylene, glass and metal. KIWOPRINT D 158 has very good ageing and light resistance. The relatively soft texture makes it especially suitable for application on difficult substrates such as: polyethylene, polypropylene, and polyamide. Materials coated with KIWOPRINT D 158 can be stored for a minimum of 1 year without any decrease in adhesive strength, if covered with a suitable silicon release paper and kept dry and dark at room temperature.

2. APPLICATION/ PROCESSING

METHOD
Screen printing, roll coating, or brush. When screen printing use a medium shore squeegee (~70 durometer / Shore A).

Stir well before use! Ensure that all adhesive is removed from the screen during printing breaks which are longer than 10–15 minutes.

The ideal printing temperature is approx. 20°-25°C / 68-77°F.

MESH SELECTION
Range: 21 - 43 threads/cm or 54 - 110 threads/in. The coarser the mesh, the higher the adhesive strength.

STENCIL SELECTION
Use water-resistant direct emulsions such as KIWOCOL POLY-PLUS HWR, SWR or HV.

REDUCING
KIWOPRINT D 158 can be thinned with water (max. 5%).

Test all modifications before using in production. Reducing the adhesive can negatively influence printing characteristics and peel strength.

CLEANING
Wet: water
Dry: Pregan 1014 e

DRYING
At room temperature or using conventional tunnel dryers for industrial production. Drying time depends on the adhesive quantity, substrate type, air humidity, drying temperature and air movement. Only completely dried adhesive films provide the best bond results.

Guide values at next column.

Guide values at room temperature and 60% relative humidity:

Wet adhesive thickness	time till dry
30 µ	Approx. 5 min.
60 µ	Approx. 8 min.
90 µ	Approx. 18 min.
120 µ	Approx. 30 min.

The adhesive must be completely dry and transparent before release liner is applied or further processing undertaken.

DIE-CUTTING
Print KIWOPRINT D 158 away from the die-line. Die cutting the adhesive will cause adhesive to accumulate on the blade of the die.

BACKLIT PARTS
Back-lit windows should not be covered with adhesive as this will change the light intensity.

NOTICE
The suitability of the adhesive together with each component i.e. substrate, ink, liner, adhesion partner etc. must be tested before production parts are made. Special attention should be paid to long term compatibility with component materials. Also one must check the influences of the line material and the state or nature of the substrate's structure or roughness. Silicone release agents, plasticizer migration etc. must be checked for and ruled out before one continues.

3. TECHNICAL DATA

PEEL STRENGTH
At least 10 N/inch (1 kp/inch) 2.27 lbs/inch.

Peel angle 180°, Measured on a shear tension meter by BE-T-EX per ASTM. Bonding area: 2.5 x 10 cm or 1 x 4 inches, 90µ adhesive wet film thickness with hand roller onto polyester film.

Notice: The peel strength also depends on the surface structure of the adhesive film (which differs depending on the method of application) and the applied coating thickness.

TACK STRENGTH
Approx. 700 g.

Measured with Polyken Tack Tester. 90µ wet film thickness with hand coater onto polyester film.

Notice: When screen printing, slightly lower values can be achieved due to the mesh structure of different meshes.

4. PROPERTIES

BASE:	Aqueous dispersion of acrylic polymers	
COLOR:	Wet:	milky white
	Dry:	transparent
TEMPERATURE RESISTANCE:	-30°C to +100°C -22°F to +140°F	

Tested with 10 x 2.5 cm or 4 x 1 in adhesive area, 90µ wet adhesive thickness, polyester bonded to stainless steel, 30g load.

UV RESISTANCE:	Very good
VISCOSITY:	Approx. 20,000 mPas (Rheomat STV, measuring system C II, 20°C)
SOLIDS CONTENT:	Approx. 61%
DENSITY:	Approx. 1.05 g/ccm
pH VALUE:	Approx. 5
PRECAUTIONS/ ENVIRONMENTAL IMPACT:	Please see the MSDS
STORAGE:	1 yr. @ 20-25°C / 68-77°F in properly closed original container. KIWOPRINT D 158 should not come into contact with unprotected metal for a longer period. PROTECT AGAINST FREEZING.

5. PACKAGING

5 kg = Approx. 1.25 Gal

6. ADHESION:

Adhesion can be improved by:

A. Using parts free of mold release agents or substances such as fats, oil, wax dust impregnations, etc. (Make sure all parts that come in contact with the adhesive are dry.)

B. Optimum application temperature : 20-60°C.or 68-140°F

C. Additional pressure (approx.: 3-4 bar) with a heated silicone rubber pad 40-50°C.or 104-122°F

D. Preventing air bubbles and stretching the substrate during application.

E. Flat and smooth substrate (i.e. pressure molding parts without burrs or sprue marks.)

F. Sufficient adhesion surface area relative to total surface area.

7. Additional information

For additional product information, please visit our web site at www.kiwo.com. All products mentioned in this technical data sheet are available through KIWO Inc. and its distributor network. For further information contact your KIWO distributor or KIWO direct.

Thank you for choosing **KIWO**.