KIWOPRINT® TC 2500/1

1. DESCRIPTION

Screen printable, solvent based pressure sensitive adhesive

KIWOPRINT TC 2500/1 is a high quality pressure sensitive adhesive used for the production of self adhering materials made of cardboard, rigid PVC, polycarbonate, polyester, polyethylene, polypropylene, glass, metal and industrial foams to self adhering items. Materials bonded with KIWOPRINT TC 2500/1 are very difficult to remove or even permanent depending on the substrate type. KIWOPRINT TC 2500/1 is a slow drying version of KIWOPRINT TC 2500. TC 2500/1 is suitable for application at higher room temperatures. In general, the adhesive film is sufficiently light fast; however, if placement in direct sunlight is expected, testing is essential.

Bondings are resistant to water, diluted watery acids and alkali solutions, as well as to many mineral oils.

Materials coated with KIWOPRINT TC 2500/1 can be stored for a minimum of 1 year without any decrease of 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).

The optimal printing temperature is around 20°C / 68°F; though, it is suitable for application at higher room temperatures such as: 20 - – 28°C or 68 – 82°F.

MESH SELECTION
Range: 18 - 43 threads/cm or 46 - 110 threads/in. The coarser the mesh, the higher the adhesive strength.

Adhesive coverage is approx. 60 g/m^2 or 166.7 ft^2/kg when applied to polyester using 36 threads/cm or 92 threads/in mesh, depending on application conditions.

STENCIL SELECTION
Solvent-resistant direct emulsions must be used such as KIWOCOL POLY-PLUS S, SWR or KIWOCOL 31

REDUCING/ CLEANING
KIWOPRINT TC 2500/1 is ready to use. If thinning/cleaning is desired, use KIWOSOLV L 14. Test all modifications before using in production.

DRYING
KIWOPRINT TC 2500/1 can be dried at room temperature or using conventional tunnel dryers for industrial production. The adhesive must be completely dry and transparent before a release liner is applied or further processing undertaken.

DIE-CUTTING
KIWOPRINT TC 2500/1 can be die-cut.

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

Screen printed on 50µ polyester film. Peel strength & tack values resulting from smooth adhesive layers.

Screen mesh	21-140µ/cm 54-140µ/in	36-90µ/cm 92-90µ/in	43-80µ/cm 110-80µ/in
Drying at 20°C or 68°F	90 min.	60 min.	50 min.
Drying at 70°C or 158°F	3 min.	2.2 min.	2 min.
Dry Coating Thickness (*1)	28 µ	12 µ	9 µ
Tack value (*2)	~ 1200g ~ 42.3 oz	~ 800g ~ 28.2 oz	~ 600g ~ 21.2 oz
Peel Strength: 15 min. (*3)	~ 11.0 N/cm 6.3 lb/in	~ 7.5 N/cm 4.3 lb/in	~ 6.0 N/cm 3.4 lb/in
Peel Strength: 72hr (*3)	~ 12 N/cm ~ 6.9 lb/in	~ 8.5 N/cm ~ 4.9 lb/in	~ 7.0 N/cm ~ 4.0 lb/in

(*1) Difference measurement per DIN 50981, with PERMASCOPE M 11 thickness guage by Helmut Fischer GmbH + Co.

(*2) 90µ wet film thickness. Measured with Polyken Tack Tester, 1 sec. adhering, pull-off speed: 1 cm/sec. Measured with specimen holder "A" at room temperature.

(*3) Peel strength per PSTC-1; measured in N/cm. Peel angle 180°, measured 15 min. and 72 hrs. after adhering. Measured on a Lloyd type L 500 by Lloyd Instruments, load cell 100 N [or 22.7 Lbs] / Class 1, DIN 51221 for tension & pressure. Peel speed: 300mm/min. Bonded to polished stainless steel (material 1.4301) with hand roller as per PSTC-Standard: roller weight 10 lbs, 5 times each direction. Bonding area: 2.5 x 10 cm or 1 x 4 inches.

4. PROPERTIES

BASE:	Synthetic rubber in solvent solution
COLOR:	Slightly yellow, dries transparent
TEMPERATURE RESISTANCE:	-20°C to +80°C -4°F to +176°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.

VISCOSITY:	Approx. 2,700 mPas (Rheomat STV, measuring system C II, 20°C)
SOLIDS CONTENT:	Approx. 46%
DENSITY:	Approx. 0.90 g/ccm
VOC:	487 g/l 4.05 lbs/Gal
FLASHPOINT:	45°C or 113°F
PRECAUTIONS/ ENVIRONMENTAL IMPACT:	Please see the MSDS
STORAGE:	9 mo. @ 20-25°C / 68-77°F in properly closed original container

5. PACKAGING

4.5 kg	= Approx. 1.32 Gal
180 kg	= Approx. 52.84 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**.