



TECHNICAL DATA SHEET

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DH1104

Description:

DH1104 is a solvent based, clear, acrylic adhesive for bonding flexible or rigid vinyl to metals. The adhesive is activated by heat and can be used where PVC is coextruded or heat sealed to metals. DH1104 can be used on stainless steel, aluminum, cold rolled steel, or other metals. DH1104 resists plasticizer migration so it will maintain a strong bond on even the most plasticized soft vinyls.

Physical Properties:

	DH1104
Color:	Clear
Application Method	Roll, Brush, Dip, Flood
Viscosity:	15-25 seconds (#2 Zahn Cup)
% Non-volatile (solids):	18-21%
Density (calculated):	7.35 #/gal, 0.882 g/mL

Surface Preparation:

Metals should be degreased using an appropriate solvent or alkaline cleaner. Metals can be roughened with an abrasive pad or grit or sand blasted for better adhesion. Chemical treatments like phosphating or acid pickling can also improve bond strength on metals like steel or aluminum. For specific surface preparation recommendations, contact Ruscoe's Technical Service group.

Adhesive Application:

DH1104 can be applied by brush or roller or by dipping or flooding the surface. For continuous processes where vinyl is coextruded onto the metal, adhesive is typically applied with a felt pad applicator or flooded onto the surface.

Recommended coating thickness is 0.5-1.5 mils dry. To achieve this thickness, a wet coating of 5-6 mils is necessary. There are many different techniques for measuring wet or dry adhesive film thickness, so please contact Ruscoe's Technical Service group for further recommendations.

DH1104 is supplied at a thin viscosity. However, if further thinning is required DH1104 can be cut back with *methyl ethyl ketone*, acetone, or toluene.

Bonding:

All volatile solvent must be dried from the adhesive before the bonding operation. Adhesive can be dried at room temperature for 1-2 hours or force dried in an oven. After drying, the adhesive must be heated to 425-450F. This heating step cures the adhesive to the metal and gives the best adhesion. Vinyl can then be coextruded or heat sealed to the metal at temperatures greater than 350F. For heat sealing, the bondline (interface between adhesive and vinyl) must reach 350F. This can be measured by inserting a thermocouple wire between the adhesive and vinyl during the sealing operation.

Cleaning:

DH1104 can be cleaned using methyl ethyl ketone or acetone. Other solvents like alcohols or toluene will be somewhat effective, but MEK or acetone are the most effective cleaners.

Storage:

DH1104 can be stored in sealed containers for up to 12 months from the date of manufacture. Ruscoe recommends storing this product below 90F for best stability and safety.

All statements, technical information and recommendations contained herein are based on tests believed to be reliable, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties expressed or implied.

Seller's and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising out of the use of, or the inability to use the product. Before using, user shall determine the suitability of the product for their intended use and user assumes all risk and liability whatsoever in connection therewith.

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