PRODUCT INFORMATION

Urethane; Polyurethane: Solvent-base Aromatic Polyester Binder Resin

QA3781

PRODUCT DESCRIPTION

QA3781 solvent-based urethane adhesive solution formulated with a crosslinking agent which forms an adhesive system. This adhesive system is suggested for bonding stiff materials, such as heavy cotton duck, metal, rubber, paperboard and plastics, and for laminating PVC or urethane elastomer films to various substrates. This adhesive system is particularly suited for laminating vinyl to nylon. Performances of QA3781 plus crosslinker systems should be evaluated in intended applications prior to production
scale operations.

APPLICATIONS

--Film Laminations
--General Purpose Adhesives

TECHNICAL INFORMATION:

% Solids: 40% ± 1
Viscosity @ 25°C: 12,500 to 25,000 cps
Wt./Gallon: 8.00 ± .1
Specific Gravity@ 25°C: 0.904 ± .05
Flash Point (PMCC), °C (°F): -4 (25)
Appearance: Straw-Colored Liquid
Solvent System: Methyl Ethyl Ketone/Toluene

Typical Properties:

Tensile[1] 2400 - 3600 psi

Elongation[1] 675 - 750%
Storage Stability: Six months in a tightly closed container at room temperature

TEST METHODS (ASTM Method)

% Solids - D-2369 Viscosity - D-219 Tensile - D-412 Wt/Gallon - D-1475 Elongation – D412
(1): Instron tester; films pulled at 2 in./min.

APPLICATION: To prepare ready-to-use adhesives, the proper amount of QZ303 crosslinking agent is mixed with diluted or undiluted QA3781 adhesive solution. Inclusion of a prescribed amount of QZ14 catalyst is optional. This mixture is applied to one or both substrates. If one of the materials to be bonded is porous, substrates may be joined immediately. The resultant construction is then cured for 1-3 minutes at 90-121°C (200 to 250°F).
If both substrates are nonporous, adhesive is applied to both surfaces and dried; substrates are bonded at a minimum temperature of 60°C with pressure. Required pressure and time are dependent upon the

amount of adhesive and substrates being used. In either case, curing is allowed to proceed to completion at room temperature to yield tenacious, durable bonds.

The amount of QZ303 crosslinking agent to be used depends upon the net solids content of the adhesive solution. Consideration must be given to reduction resulting from any dilution with added solvents. The table below gives recommended levels of crosslinking agent for various dilutions of adhesive solution. Methyl ethyl ketone, toluene or ethyl acetate or a combination thereof, may be used for dilution when reduction of solids content and corresponding reduction of viscosity are desired.

QA3781 Solid Content, % by Wt.	QZ303 parts per 100 pts QA3781 by Wt.
40 (undiluted)	5.0
35	4.0
30	3.0
25	2.0
20	2.0

The pot life of the respective combinations shown in the table is 4 to 5 days in closed containers at room temperature. It is preferable not to maintain these mixtures in open containers for more than 8 hours. Generally, adhesives in which QZ14 catalyst has been used, develop maximum bond strength within 24 hours at room temperature, whereas uncatalyzed preparations require 48 to 72 hours under similar conditions.

To accelerate the rate at which bond strength develops, the use of QZ14 catalyst is suggested. Initially, 0.1 parts by weight should be added and evaluated for bond strength development and pot life. Additional use of QZ14 catalyst should be evaluated in 0.1 parts by weight increments

KEEP FROM FREEZING

02/15