

URALANE[®] 5774-1 A/C Polyurethane Adhesive

Product Description

URALANE[®] 5774-1 A/C polyurethane adhesive is a two-component, self-extinguishing material that cures at room or elevated temperature to form tough, impact-resistant bonds to thermoplastics or metal substrates. The mixed compound is a soft paste for application to vertical or overhead surfaces. Cure may be accelerated at moderate temperature (150 - 200°F / 65 - 95°C) for faster production schedules. This product is available in dual-barrel cartridges for quick, convenient application. URALANE[®] 5774-1 A/C polyurethane adhesive is qualified to BMS 5-105, Type 5.

Features

- High strength
- Self-extinguishing
- High peel strength

Typical Properties*

Property	Test Method	5774-1 A	5774-1 C	Mixed System
Appearance	Visual	Off-white	Beige	Beige
Density, g/cm ³	ASTM D792	1.1 ± 0.05	1.2 ± 0.05	1.15
Viscosity at 25°C, cP	ASTM D2196	20 - 35,000	Semi-paste	Semi-paste

*Typical properties are based on Huntsman's test methods. Copies are available upon request.

Processing

Mix Ratio

Product	Parts by weight	Parts by volume
URALANE [®] 5774-1-A	100	2
URALANE [®] 5774-1-C	55	1

Mix both components thoroughly for 2-3 minutes to ensure complete blending. Mix only that amount which can be dispensed in 15 minutes at 77°F (25°C). Material temperatures should be above 18°C (65°F) when mixing. To extend work life spread mixed adhesive on a metal plate covered with polyethylene film immediately after mixing.

Processing Data

Parameter	Value
Gel time, 100 g at 77°F (25°C), min	15 - 25
Typical Cure Cycles	7 days at RT, or
	Gel at RT + 2 - 4 hours at 65°C, or
	1 - 2 hours at 95°C

Typical Physical Properties

Unless otherwise stated, the data were determined with typical production batches using standard test methods. They are typical values only, and do not constitute a product specification.

Property*	Test Method	-67°F	77°F	180°F	77°F*
Tensile Lap Shear, psi (MPa)	ASTM D1002				
Al-Al		4,500	2,200	1,300	2,300
polycarbonate to polycarbonate		1,500	1,000	900	1,000
Declar T®		1,550	1,350	600	--
Kydex® 6565		1,500	1,200	450	--
T-peel, pli (N/mm)	ASTM D1876				
Al-Al		50	35	--	30
polycarbonate to polycarbonate		--	35	--	40
Hardness, Shore D	ASTM D2240	60	50	60	--
Elongation, %	ASTM D412	--	180	--	--
Flammability, 60 sec. ignition vertical†	--				
Self-extinguishing, sec		< 2			
Burn length, in		< 7			
Drip self-extinguishing, sec		< 1			

*Aged 14 days at 120°F (48°C) and 95% relative humidity. Tested at 77°F (25°C).

†Test on a 15 mils of cure material spread over glass fabric cloth type 116.

Cure Rate of URALANE® 5774-1 A/C Polyurethane Adhesive

The data below illustrates that parts bonded with URALANE® 5774-1 A/C polyurethane adhesive:

- 1) Can be handled within 4 hours at room temperature after application.
- 2) Early green strength (75% of full strength) is achieved in 24 hours at room temperature.
- 3) Ultimate strength is reached in 6 - 7 days at room temperature.

Time at 77°F (25°C), hours	Al-Al Lap shear (psi/MPa)
2	220/1.5
4	600/4.1
8	740/5.1
16	890/6.1
24	1500/10.3
72	1780/12.3
120	1840/12.6
144	2016/13.9
168	2080/14.3

For faster cure, the fabricated part can be subjected to the following accelerated cure schedules after a 30 - 60 minute gelation at room temperature:

- Option # 1: 2 - 4 hours at 150°F (66°C), or
Option # 2: 1 - 2 hours at 200°F (95°C)

For optimum performance of URALANE® 5774-1-A/C polyurethane adhesive, the recommended bond line thickness is 3-5 mils and the fabricated part should be clamped (or held stationary) for a minimum of 4 hours.

Storage

URALANE® 5774-1 A/C should be stored in a dry place, in the original sealed container at temperatures between **2°C and 40°C (35.6°F and 104°F)**. Tightly reseal containers after each use. Under these storage conditions, the product has a shelf-life of **6 months (from date of shipment)**. The product should not be exposed to direct sunlight.

DO NOT REFRIGERATE. These products are moisture sensitive and are packaged under a blanket of dry nitrogen. After opening a container, re-blanket with dry nitrogen and then tightly reseal.

Precautionary Statement

Huntsman Advanced Materials Americas LLC maintains up-to-date Safety Data Sheets (SDS) on all of its products. These sheets contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products. Users should review the latest MSDS to determine possible health hazards and appropriate precautions to implement prior to using this material.

First Aid!

Refer to SDS as mentioned above.

KEEP OUT OF REACH OF CHILDREN

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