

**Advanced Materials****Uralane<sup>®</sup> 5774-A/C**

## POLYURETHANE ADHESIVE

- High Strength
- Self-Extinguishing
- High Peel Strength

**DESCRIPTION**

Uralane 5774-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 easy-to-use Accumix™ cartridges for quick, convenient application. Uralane 5774-A/C polyurethane adhesive is qualified to BMS 5-105, Type 5.

**TYPICAL PROPERTIES AS RECEIVED**

| <b>Property</b>  | <b><u>5774-A</u></b> | <b><u>5774-C</u></b> | <b><u>5774-A/C</u></b> | <b><u>Test Method</u></b> |
|--|----------------------|----------------------|------------------------|---------------------------|
| Color  | Off-white            | Beige                | Beige                  | Visual                    |
| Specific gravity   | 1.1±.05              | 1.2±.05              | 1.15                   | ASTM-D-792                |
| Viscosity, cP at 77°F (25°C)                             | 20-35,000            | Semi-paste           | Semi-paste             | ASTM-D-2196               |
| Gel time, 100 gms. at 77°F (25°C)                        | --                   | --                   | 15-25 min.             | ASTM-D-2471               |
| Shelf life <sup>+</sup> at 77°F (25°C), unopened, months | 6                    | 6                    | --                     | --                        |

<sup>+</sup> See storage and handling information on page two.

**MIX RATIO**

To 100 parts by weight of Uralane 5774-A resin, add 55 parts by weight of Uralane 5774-C hardener or 2:1 parts by volume. 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). To extend work life spread mixed adhesive on a metal plate covered with polyethylene film immediately after mixing.

**CURE SCHEDULE** (See additional details on page 2)

7 days at room temperature, or gel at room temperature plus 2-4 hours at 150°F (65°C), or 1-2 hours at 200°F (95°C).

**TYPICAL CURED PROPERTIES** (Not for specification purposes)

| <b>TEST</b>  | <b>RESULTS</b>          |             |              |              |
|--|-------------------------|-------------|--------------|--------------|
| Flammability 60 sec. ignition vertical<br>on a 15 mils of cure material spread<br>over glass fabric cloth type 116 | Self-extinguishing      | < 2 seconds |              |              |
|  | Burn length             | < 7 inches  |              |              |
|  | Drip self-extinguishing | < 1 second  |              |              |
| Tensile lap shear, ASTM D-1002, psi (MPa)  | <b>-67°F</b>            | <b>77°F</b> | <b>180°F</b> | <b>77°F*</b> |
| AL/AL  | 4500                    | 2200        | 1300         | 2300         |
| polycarbonate to polycarbonate   | 1500                    | 1000        | 900          | 1000         |
| Declar T <sup>®**</sup>  | 1550                    | 1350        | 600          |              |
| Kydex <sup>®***</sup> 6565   | 1500                    | 1200        | 450          |              |
| T-peel, ASTM D-1876, pli (N/mm)  |                         |             |              |              |
| AL/AL  | 50                      | 35          | --           | 30           |
| polycarbonate to polycarbonate   | --                      | 35          | --           | 40           |
| Hardness, ASTM D-2240, Shore D, --   | 60                      | 50          | 60           |              |

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

**CURE RATE OF URALANE<sup>®</sup> 5774-A/C POLYURETHANE ADHESIVE**

(At 77°F/25°C)

The data below illustrates that parts bonded with Uralane 5774-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.

| <b>Time @ 77°F (25°C)</b><br><b>(hours)</b> | <b>AL/AL Lap Shear</b><br><b>(psi/MPa)</b> |
|---|--|
| 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-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/ SHELF LIFE :** Polyurethane resins and hardeners should be stored in a dry place in their original, sealed containers at temperatures from 70-90°F (21-32°C). **DO NOT REFRIGERATE.** These products are moisture sensitive and are packaged under a blanket of dry nitrogen. Material temperatures should be above 65°F (18°C) when mixing. After opening a container, re-blanket with dry nitrogen and then tightly reseal.

Under these conditions, polyurethane resins will remain useable for 6 months from date of shipping from Huntsman.

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**CAUTION :**

Huntsman Advanced Materials Americas Inc. maintains up-to-date Material Safety Data Sheets (MSDS) 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. Copies of the latest MSDS may be requested by calling our customer service group at 800-367-8793 or emailing your request to [adhesives\\_group@huntsman.com](mailto:adhesives_group@huntsman.com).

**FIRST AID !**

Eyes and skin: Flush eyes with water for 15 minutes. Contact a physician if irritation persists. Wash skin thoroughly with soap and water. Remove and wash contaminated clothing before reuse.

Inhalation: Remove subject to fresh air.

Swallowing: Dilute by giving water to drink and contact a physician promptly. Never give anything to drink to an unconscious person.

**KEEP OUT OF REACH OF CHILDREN****FOR PROFESSIONAL AND INDUSTRIAL USE ONLY**

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