

Arathane® 5753A/B40

Highly Flexible Urethane Adhesive, Coating, & Encapsulant

Arathane® 5753A/B40 is a Black colored version of the popular Arathane® 5753A/B(LV) polyurethane system produced by Huntsman Advanced Materials. The Arathane® 5753A/B40 system is produced from the standard Arathane 5753A/B(LV) by adding a black inorganic pigment. The cured properties of the material are not significantly affected by the addition of the black pigment.

APPLICATIONS & BENEFITS:

- Potting & impregnation of low voltage electronic devices, such as coils, potentiometers, modules, and hydrophones
- Low modulus - excellent for use with stress-sensitive and cryogenic components
- Allows for inspection and identification under black light
- Low outgassing for use in optical, space and other high vacuum environments. (Meets NASA and ESA requirements)
- Highly resistant to reversion even with high heat and humidity exposure
- Repairable

HANDLING PROPERTIES		<u>VALUE</u>	<u>TEST METHOD</u>
Visual Appearance, Part 5753A		Clear, yellow to orange liquid	
Density, Part A		1.20 g/cm ³	ASTM E-201
Viscosity, Part A, @ 25°C		50 cps	ASTM D-2196
Visual Appearance, Part 5753B40		Black liquid	
Density, Part B		0.96 g/cm ³	ASTM E-201
Viscosity, Part B, @ 25°C		8000 cps	ASTM D-2196
Density Mixed, g/cm ³		1.00 g/cm ³	ASTM E-201
Viscosity Mixed, @ 25°C		5500 cps	ASTM D-2196
Mix Ratios by weight:		20A:100B	15.6A:100B
<u>Processing Temp.</u>	<u>Gel time</u>	<u>Tack Free time</u>	<u>Full Cure time</u>
25°C	90 – 120 minutes	16 – 24 hours	7 days
65°C	15 – 25 minutes	2 – 3 hours	8 - 16 hours
95°C	5 – 10 minutes	1 – 2 hours	4 - 8 hours

PHYSICAL PROPERTIES		<u>VALUE</u>	<u>TEST METHOD</u>
Color		Black	Visual
Shore A Hardness		50 – 60	ASTM D-2240
Tensile Strength, psi		650 psi	ASTM D-638
Tensile Elongation at break		>200%	ASTM D-638
Glass Transition Temp. (Tg)		<-70°C	ASTM D-648
Coefficient of Thermal Expansion (CTE):			ASTM E-831
Below Tg / Above Tg		100 ppm/°C / 180 ppm/°C	
Maximum Suggested Continuous Use Temperature:		130°C	
Fungus Resistance		Non-Nutrient	Mil-I-46058C

Outgassing:		ASTM E-595
Total Mass Loss (TML) %	0.41%	
CVCM %	0.03%	
WVR %	0.01%	
Dielectric Strength @ 3 mil	>1500 V/mil	Mil-I-46058C
Insulation Resistance, ohms	$>1.0 \times 10^{15}$ ohms	Mil-I-46058C
Dielectric Constant @ 25C		ASTM D-150
@ 1 k Hz / 100 KHz	2.5 / 3.0	
Dielectric Constant @ 100C		ASTM D-150
@ 1 k Hz / 100 KHz	3.6 / 3.2	
Loss tangent @ 25C		ASTM D-150
@ 1 k Hz / 100 KHz	0.022 / 0.025	
Loss tangent @ 100C		ASTM D-150
@ 1 k Hz / 100 KHz	0.024 / 0.027	
Thermal Conductivity	0.22 W/mK	

NOTE : Values are based on laboratory or average production results – not for specification purposes.

SUGGESTED PROCESSING GUIDELINES:

To use, weigh Part A and Part B in the recommended ratio as accurately as possible into a clean mixing container. Mixing containers should preferably be made of polyethylene, glass, or non-corroding metal. (Stainless steel, aluminum, etc.). Always use weighing equipment having accuracy that is $\pm 1\%$ or less of the smallest quantity that you will be weighing. Blend Part A & B thoroughly using a spatula or stirring stick for at least 2-3 minutes using a kneading motion. Scrape the bottom and sides of the mixing container carefully and frequently to produce a uniform mixture. Vacuum de-gassing after mixing is helpful to remove air. Vacuum degassed material will produce the strongest possible bonds and provide the best insulation values.

Apply the mixed material to clean, dry surfaces. Suitable application methods include by brush, by spatula, from a syringe, etc.

Cleaning, Stripping, and Removal:

Uncured or partially cured Arathane[®] 5753A/B40 can be removed with acetone, MEK, Ultralane Thinner, or other solvents. Fully cured Arathane[®] 5753A/B40 may be removed using Ultralane Stripper A/B

STORAGE GUIDELINES:

Store this material in a clean, cool and dry environment in its tightly closed original container. Protect the Arathane[®] 5753A from extended exposure to temperature below 20°C (68°F). Crystallization may occur if the 5753A is exposed to cold for extend periods. If this occurs, heat the entire container of 5753A for 4 hours at 70°C to re-liquefy the crystals. Allow to cool to ambient temperature prior to using. Also protect the 5753B40 from exposure to moisture or high humidity. Tightly re-seal containers after use and blanket with dry nitrogen or another dry inert gas if available. If the recommended storage conditions are observed the products will have a minimum shelf-life of 12 months from the date of shipment.

HANDLING PRECAUTIONS:

Mandatory and recommended industrial hygiene procedures should be followed whenever these products are being handled and processed. For additional information please consult the corresponding material safety data sheets.

PERSONAL HYGIENE:

Arathane® 5753A

WARNING! Contains organic isocyanate. May cause severe eye & skin irritation. Prolonged or repeated skin contact or inhalation of vapors may cause allergic skin or respiratory reactions. Harmful if inhaled or swallowed. Avoid contact with eyes, skin, or clothing. Wear eye protection and impervious gloves when handling. Wash thoroughly after handling. Avoid breathing vapor or mist. Keep containers closed when not in use. Use only with adequate ventilation. Do not take internally.

Arathane® 5753AB40

Caution! May cause eye & skin irritation. Prolonged or repeated skin contact may cause allergic skin reactions. Harmful if inhaled or swallowed. Avoid contact with eyes, skin, or clothing. Wear eye protection and impervious gloves when handling. Wash thoroughly after handling. Avoid breathing vapor or mist. Keep containers closed when not in use. Use only with adequate ventilation. Do not take internally.

FIRST AID

In case of contact:

Skin – Immediately wash skin thoroughly with mild soap and water. Remove contaminated clothing and wash before reuse. Destroy contaminated shoes and other articles made of leather.

Eyes – Immediately flush eyes with plenty of water for 15 minutes and get prompt medical attention.

Inhalation - Remove person to fresh air. Administer oxygen or artificial respiration if necessary. Call a physician.

Ingestion - Do not induce vomiting. Dilute with plenty of water and contact physician immediately. Never give anything by mouth to an unconscious person.

DISCLAIMER:

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NOTE: Arathane® is a registered trademark of Huntsman Advanced Materials. SP&S is the Authorized Master Distributor for the Arathane® 5753A/B(LV) and the Authorized Manufacturer of Arathane® 5753A/B40. Huntsman Advanced Materials does not in any endorse or certify any of the information presented herein, which is supplied solely by SP&S.