A-4300 Clear Silicone Aliphatic Polyurea – Technical Data Sheet

PRODUCT DESCRIPTION:

A-4300 Clear Silicone Aliphatic Polyurea is a two component 100% solids, no VOC's, silicone aliphatic polyurea that was developed for **UV** stable (colorfast) polyurea flooring applications. This new generation polyurea displays fast cure times and excellent adhesion characteristics. ***A-4300*** was designed to be quick gelling (30 minutes) in order to optimize leveling and wetting properties. ***A-4300*** can be spray applied at temperatures ranging from 20ºF to 120ºF. This 100% polyurea elastomer displays excellent chemical resistance, water insensitivity and UV resistance (in any color) at a wide range of temperatures. ***A-4300*** will provide a smooth glossy finish when fully cured. An aggregate can be broadcast into this self-leveling material to provide a non-skid surface. ***A-4300*** emits virtually no odors and can be applied indoors without high VOC levels contributed to most epoxies and polyurethanes. ***A-4300*** meets to USDA and FDA specifications.

PRIMARY APPLICATIONS:

- BRIDGE COATINGS
- AIRCRAFT HANGAR FLOORS
- LOW TEMPERATURE EQUIPMENT
- MAINTENANCE FACILITIES
- FLOORS REQUIRING UV STABILITY
- UV-STABLE TOP COAT
- INDUSTRIAL SHOP FLOORS
- NON-CONDUCTIVE FLOORING

TYPICAL PHYSICAL PROPERTIES:

Main Office: 41730 Regan Way Murrieta, CA 92562
Phone (800) 775-8880
www.americrete.com

Tensile Strength (PSI) ASTM D412 5110
Elongation (%) ASTM D412 140
Tear Strength (PLI) ASTM2240 500
Hardness, Shore D ASTMD2240 60
Flexibility, 1/8" Mandrel ASTMD1737 Fail
Flashpoint (°F) ASTM Pensky-Martin >200
Taber Abrasion (mg loss) ASTM D4060 65
CS17 – Wheel 1 kg per 1000 revs
Viscosity B-side (75°F) CPS 575
Viscosity A-side (75°F) CPS 300

Typical Processing Properties:

Gel Times (75°F) minutes 30
Tack Free Time (75°F) minutes 60
Open to Foot Traffic minutes 120
Volume Ratio A / B PBV 3:4
Ratio for White Only (A:B) PBV 2:3

AVAILABLE COLORS:

All primary colors
Custom tints

INSTALLATION RECOMMENDATIONS:

A-4300 adheres well to many substrates when properly primed including concrete, steel and wood. Substrate surfaces should be free of loose particles, rusts, voids and spills. It is recommended that this product be applied in a multi-directional (north, south, east and west) motion to help ensure the proper coating thickness. Chloride, moisture and pH levels should be checked prior to application. Always agitate the resin side before using.

CONCRETE:

Old Concrete – Sandblasting, shot blasting or water blasting is highly recommended to remove surface contaminates. Any oils or fats must be removed prior to product application. Acid etching may be required (followed by a thorough rinsing) to open the pores of the concrete to accept a primer coat. Do not apply ***A-4300*** to wet substrates. Contact the manufacturer for primer recommendations in wet applications. **In almost every application, a primer is recommended prior to use of the *A-4300* polyurea.** This will help prevent pin holing, and in some cases, help fill voids and create a smoother surface. A 10-mil coating of ***A-4300*** is generally recommended for chemical resistance and abrasion issues. **New Concrete –** The concrete should be allowed to cure for a minimum of 30 days. Shot blasting, sandblasting or acid etching (15% muriatic acid / 85% H_2O) is required to remove the surface lattice that appeared during the curing process. A primer should be applied to reduce outgassing. Contact the

manufacturer for specific recommendations. A 10-40 mil coat is generally recommended depending on chemical resistance and abrasion issues.

CARBON STEEL:

The steel must be prepared to a "near white metal," equivalent to SSPC 10 or NACE 2. For immersion service, a 3-mil blast profile is recommended. A 2-mil blast profile is generally accepted. A 10 – 40 mil coat of ***A-4300*** is generally recommended based on chemical resistance issues.

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SUBSTRATE REPAIRS:

All spalls and cracks should be repaired to ICRI standards. Expansion joints should be honored. Horizontal control joints can be filled with **Joint Sealants** prior to the application of ***A-4300.***

PRIMER REQUIREMENTS:

Use PRIMER.

MIXING INSTRUCTIONS:

Thoroughly mix the "B" component using a jiffy mixer and drill for a minimum of 3 minutes to place the pigmentation evenly in solution (not required for clear coats). Pour 4 Part B to 3 Part A (not more than 1 gallon of each component) into a disposable container and mix with jiffy mixer for 2 minutes. Immediately apply mixed product to the floor and begin application.

APPLICATION NOTES:

When applying a smooth floor, it is recommended to first apply a tight squeegee coat of ***A-4300*** to fill voids and bug holes. Contact the product manufacturer for application recommendations. It is also recommended to mix several small batches at a time due to the fast reactivity. The manufacturer recommends no more than two-gallon batches per application. Rollers should be replaced on an hourly basis.

REPAIRS AND MAINTENANCE:

Small repairs to cuts in the coating can be made with ***A-4300***. This material can be caulked or brushed on the surface after scuffing. Re-spraying on ***A-4300*** (after 1 hours of initial application) generally requires the use of a primer or sanding to achieve optimum adhesion.

SHELF LIFE AND STORAGE:

Six months in factory delivered unopened drums. Keep away from extreme heat, cold, and moisture. Maintain at a proper storage temperature of 60°F - 100°F.

PACKAGING:

- 5 gal pails
- 55 gal drums

SHIPPING INFORMATION:

A-4300 can ship via commercial truck lines. The class is "55" polyurea spray. The "A" and "B" sides are unregulated.

SAFETY AND HANDLING:

See MSDS Sheets

Adhesion Results:

ASTM D-4541 Elcometer

Concrete (No primer) >300 psi . Concrete Failure

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Concrete (Primer) >300 psi . Concrete Failure
Concrete (Epoxy) >300 psi . Concrete Failure
Steel (No primer) >900 psi . Substrate Failure
Steel (Epoxy primer) >1500 psi . Primer Failure
Wood (No primer) > 250 psi . Delamination

Chemical Resistance:

Chemical Result (25°C)
Acetic Acid (100%) C
Acetone C
Ammonium Hydroxide (50%) RC
Benzene C
Brine-Saturated H2O (310g/l) R
Chlorinated H2O R
Clorox® (10%) H2O R
Diesel Fuel RC
Gasoline RC
Gasoline / 5 % MTBE RC
Gasoline / 5% Methanol RC
Hydrochloric Acid (20%) R
Hydrofluoric Acid (10%) NR
Hydraulic Fluid (oil) RC
Isopropyl Alcohol R
Lactic Acid RC
MEK RC
Methanol R
Methylene Chloride C
Mineral Spirits RC
Motor Oil R
MTBE C
Muriatic Acid (10%) R
NaCl / H2O (10%) R
Nitric Acid (20%) NR
Phosphoric Acid (10%) R
Phosphoric Acid (50%) NR

Potassium Hydroxide (10%) R
Potassium Hydroxide (20%) R, Dis
Propylene Carbonate RC
Skydrol® C
Sodium Hydroxide (25%) R
Sodium Hydroxide (50%) R, Dis
Sodium Hypochlorite (10%) R
Sodium Bicarbonate R
Stearic Acid R
Sugar / H2O R
Sulfuric Acid (10%) R
Sulfuric Acid (>50%) RC
Toluene R
1,1,1-Trichlorethane C
Trisodium Phosphate R
Vinegar / H2O (5%) R
H2O R
H2O (14 days @ 82°C) RC
Xylene RC
Chemical Resistance :
Chart Key

R. **Recommended** Little or no visible damage
RC . **Recommended Conditional** Some effect, swelling, discoloration
C . **Conditional** Crackling-wash down within 1 hour of spillage to avoid effects.
NR . **Not Recomm nded e**
Dis . **Discoloration**

Coverage Calculations:

Coating Thickness Sq.Ft /gal
20 mils 70
30 mils 48
40 mils 36
50 mils 29
60 mils 24
80 mils 18
100 mils 14
250 mils 5.5

Warranty:

The technical data and any other printed information furnished by **Americrete; Inc**. is true and accurate to the best of our knowledge. ***A-4300*** conforms to in-house quality control procedures and should be considered free of defects. Due to the wide range of applications of this product, it is impossible to assume responsibility for any errors in regard to application, coverage, workmanship, over spray or injuries resulting from the use of ***A-4300***. **Americrete, Inc.** makes no warranty, expressed or implied, of its products and shall not be liable for indirect or consequential damage in any event.