



TIGER Drylac[®]
Powder Coatings

DATA SHEET

As a vital part of Tiger Drylac U.S.A., Inc. customer service program our product Data Sheets are periodically updated. If the version date on this literature is in excess of 12 months old please contact your nearest Tiger Drylac U.S.A., Inc. location to receive current information on this product.

This standard form substitutes all and any previous standard forms and notes for customers published on Drylac Series 49 products.

TIGER Drylac Series 49 lead and cadmium free

Product description: Weather resistant Powder Coating based on Polyester TGIC.

Features:

- Good Weather Resistance
- High Mechanical Properties
- Very Smooth Flow
- Good Coverage
- Good Storage Stability

Typical applications:

- Residential Windows and Doors
- Patio Furniture
- Lawnmowers and Garden Equipment
- Automotive Accessories
- Bicycles and Motorcycles
- Aircraft Components
- Agricultural Machinery.

TIGER DRYLAC[®] U.S.A., INC.

West Coast: 1251 E. Belmont Street • Ontario, CA 91761 • Tel. (909) 930-9100 • Telefax (909) 930-9111
Northwest: 18808 142nd Ave. N.E., Ste. 5 B, Woodinville, WA 98072 • Tel. (206) 481-3160 • Telefax (206) 481-1136
Midwest: 1151 Atlantic Drive, Unit # 2 • West Chicago, IL 60185 • Tel. (708) 231-1420 • Telefax (708) 231-1578
East Coast: 1100 Commons Blvd. • Reading, PA 19605 • Tel. (610) 926-8148 • Telefax (610) 926-8149
Southeast: 1730 Cumberland Point Dr., Ste. 10 • Marietta, GA 30067 • Tel. (404) 984-1317 • Telefax (404) 984-1513
South: 349 Exchange Drive • Arlington, TX 76011 • Tel. (817) 277-7995 • Telefax (817) 277-1931

Test results: TIGER-DRYLAC Series 49, smooth flow, checked on a chromated aluminum test panel which is 1/32 in/0.7 mm thick. Cure conditions according to the cure curve.

| | Series 49 glossy surface | Series 49 semi gloss surface | Series 49 mat surface |
|--|---|---|---|
| Thickness | 2.5—3.5 mils/ 60—90 microns | 2.5—3.5 mils/ 60—90 microns | 2.5—3.5 mils/ 60—90 microns |
| Gloss according to Gardner 60° ASTM D 523 | 80—90 | 55—70 | 15—25 |
| Cross hatch adhesion ASTM D 3359 method B | pass 100 % | pass 100 % | pass 100 % |
| Mandrel bending test ASTM D 522 | 1/8 in/3 mm | 5/32 in/4 mm | 3/16 in/5 mm |
| Cupping ISO 1520 | 5/16 in/8 mm | 1/4 in/7 mm | 3/16 in/5 mm |
| Impression hardness according to Buch- holz ISO 2815 | 95 | 95 | 95 |
| Impact test ASTM D 2794-90 1/10 in Distortion | up to 160 in/lbs | up to 160 in/lbs | up to 160 in/lbs |
| Pencil hardness ASTM D 3363 | 2 H (min.) | 2 H (min.) | 2 H (min.) |
| Drill mill test | ok | ok | ok |
| Saltspray resistance test ASTM B 117-90 | 1500 h test, max. undercutting 1/16 in/1 mm | 1500 h test, max. undercutting 1/16 in/1 mm | 1500 h test, max. undercutting 1/16 in/1 mm |
| Humidity resistance ASTM D 2247-87 | 1500 h test, max. blisters 1/16 in/1 mm | 1500 h test, max. blisters 1/16 in/1 mm | 1500 h test, max. blisters 1/16 in/1 mm |

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T E C H N I C A L D A T A

TGIC-POLYESTER POWDER COATINGS

Formulated for exterior durability, O'Brien TGIC-Polyesters emit no volatiles during cure and may be applied up to six mils or higher if required. Although less smooth than Urethanes, TGIC-Polyesters provide a harder finish with better edge coverage.

General specifications

This data is based on 24-gauge steel panels. For heavier ware, higher temperatures or longer oven times may be necessary. Low gloss or textured finishes may require a slightly longer cure.

Recommended film thickness:

2-6 mils

Dielectric Properties:

800 - 1,000 volts/mil for film thickness up to 10 mils.

Subject to individual test for each application.

Cure schedules:

F-cure

20 minutes at 350°F

15 minutes at 375°F

10 minutes at 400°F

8 minutes at 425°F

L-cure

20 minutes at 300°F

10 minutes at 350°F

7 minutes at 375°F

5 minutes at 400°F

Performance properties

The following figures are based on tests performed on Bonderite 1000 panels with 1.5 to 2.0 mils of a high gloss formulation. Impact and mar resistance may decrease with decreasing gloss.

Adhesion: (ASTM D-3359-B)

There is no lifting of 1/8" squares of coating between scribe lines in cross-hatch adhesion testing using pressure sensitive tape.

Pencil hardness: (ASTM D-3363)

H - 2H

Flexibility: (Modified ASTM D-522)

The coating withstands a 180-degree bend over a 1/8" diameter mandrel without cracking or loss of adhesion.

Impact resistance: (Modified ASTM D-2794)

Using the standard Gardner impact tester, the coating withstands 160 inch-pounds, both direct and reverse, without cracking or loss of adhesion.

Abrasion resistance: (Modified ASTM D-4060)

Weight loss of coating after 1,000 cycles of Taber abraser equipped with CS-10 wheels and operating under 1 kg loading per wheel is approximately 40 - 60 mg.

Salt spray resistance: (ASTM B-117)

Bonderite 1000 steel panels, in a scribed condition, exhibit no undercutting after 500 hours in a 5% salt spray at 95°F and 95% relative humidity. No rusting or blistering occurs on the panel face away from the scribe. After 1,000 hours the panel exhibits less than 1/16" undercutting. Alodine 1200 aluminum panels show no effect after 1,000 hours. Specific salt spray data is available on most products.

Humidity resistance: (ASTM D-2247)

Bonderite 1000 steel panels in an unscribed condition exhibits no effect after 1,000 hours of exposure to 100% relative humidity at 100°F.

Weatherometer: (ASTM D-822)

After one year of exposure in South Florida with panels facing south and inclined at 45 degrees, a high gloss white TGIC-Polyester coating retains 91% of its gloss (gloss readings obtained on washed panels) with no film failure.

Reflectance:

Using an integrating sphere reflectometer, an unshaded white TGIC-Polyester powder coating gives a reflectance (Y-value) of 90%.

Overbake stability:

A white TGIC-Polyester powder coating will withstand a 200% overbake without yellowing.

Chemical and solvent resistance:

O'Brien TGIC-Polyester powder coatings have good resistance to most chemicals and solvents except alkalis and ketones. Resistance testing of the following solutions were performed.

After 7 days immersion in the test fluid, the following data was obtained for TGIC-Polyester powder coatings:

| | |
|-------------------------------|------------------------------|
| 90% Sulfuric Acid | Softens/ Delaminates |
| 60% Sulfuric Acid | No effect |
| 10% Sodium Hydroxide | Slight Gloss Loss |
| Concentrated Sodium Hydroxide | Gloss Loss/ Film Cracking |
| 28% Ammonia (conc.) | No effect |
| Ammonium Phosphate | No effect |
| Potassium Bicarbonate | No effect |
| Sodium Bicarbonate | No effect |
| Mineral Oil | No effect |
| Linseed Oil | No effect |
| "FANTASTIC" Cleaner | No effect |
| Isopropanol | No effect |

Verification of resistance properties should be made for each chemical and solvent proposed for use with this coating.

WARRANTY POLICY: The seller certifies that all coatings delivered to the customer in unopened factory filled containers will meet all pertinent quality standards presented in our current published literature. Since matters of surface preparation, application procedures and other local factors that affect performance are beyond our control, we assume no liability for coating failure other than to supply replacement material for a coating shown to be defective. Do not use this product until the current Material Safety Data Sheets have been read and are fully understood. Manufacturer will not be liable for any injuries, damages or other losses deriving directly or in consequence of the purchaser's use of the product. Purchaser shall determine suitability of this product for his own use, and thereby assumes all risks and liabilities in connection therewith.



9800 GENARD • HOUSTON, TX 77041

1-800-247-3886