WS103 EXTERIOR EPOXY RESIN

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION

1.1 Product identifier

Trade name	**WS102 Exterior Epoxy Resin Part "A"**
Chemical name	**Bisphenol A Diglycidyl Ether Resin Solution**

1.2 Recommended use of the product and restrictions on use

Recommended use	Industrial Use
Non- recommended use(s)	None known

1.3 Details of the supplier of the safety data sheet

Company	Weatherskin Corporation. Bay B 1120 44th Avenue SE Calgary, Alberta. Canada T2G 4W6
Telephone	403 656 9244
Toll Free	1 877 693 9224
Website	www.weatherskin.com

1.4 Emergency telephone number

Emergency In case of emergency call CANUTEC	613-996-6666

2 HAZARD IDENTIFICATION

2.1 Classification of the mixture

Eye Irritant	Category 2B
Skin Irritant	

2.2 Label Elements

Signal word	Warning
Hazard statement	Causes eye irritation Causes skin irritation May cause an allergic skin reaction Toxic to aquatic life with long lasting effects
Precautionary Statements	Wear protective gloves/ protective clothing/ eye protection/ face protection Use only outdoors or in a well-ventilated area Avoid release to the environment
Symbols	

3 COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances

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3.2 Mixtures

WS103 EXTERIOR EPOXY - RESIN

CHEMICAL NAME	C.A.S.#	CONCENTRATION
Bisphenol A Diglcidyl Ether Resin	25068-38-06	75-95

4 FIRST AID MEASURES

EYE CONTACT	Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. If eye irritation persists: Get medical attention.
SKIN CONTACT	Wash with soap and water or use waterless hand cleaners. Do not use solvents or thinners to clean skin. Get medical attention if irritation persists.
INHALATION	Should symptoms develop, remove victim to fresh air. If breathing is difficult, qualified personnel may administer oxygen. If victim is not breathing start artifical respiration. Get medical attention.
INGESTION	Give liquids if victim is conscious. Never give anything by mouth to an unconscious person. Do not induce vomiting unless directed by a physician. Immediately call POISON CENTER/ Doctor.

5 FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media	Dry chemical, CO2, water spray or regular foam.
Unsuitable extinguishing media	Full water jet, because this may spread the fire

5.2 Hazards

Flammable properties and hazards	Product is not considered a fire hazard. Containers can build up pressure if exposed to heat.
Hazardous combustion products	Hazardous decomposition products formed under fire conditions are carbon dioxide and carbon monoxide.

5.3 Fire-fighting instructions

Do not inhale combustion gases. Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures.

Use personal protective equipment. Wear chemical safety glasses, rubber boots and heavy rubber gloves. Ensure adequate ventilation.

6.2 Environmental precautions

Do not allow to enter drains, waterways, sewers, basements or confined areas.
Do not discharge into the subsoil / soil. Absorb spills with inert material and place in a chemical waste container.

7 HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid all personal contact. Use personal protective equipment. Use adequate ventilation.

7.2 Hygiene considerations

Wash hands before breaks and after work. Remove soiled or soaked clothing immediately. Wash contaminated clothes before reuse. Do not eat, drink or smoke when handling this product.

7.3 Safe storage procedures

Keep away from heat. Keep containers tightly closed in a dry well-ventilated place.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 EXPOSURE LIMITS

Hazardous Components (Chemical Name)	CAS#	OSHA PEL	ACGIH TLV	OTHER LIMIT
Bisphenol A Diglycidyl Ether Resin	25068-38-6	No data	No data	No data

8.2 EXPOSURE CONTROLS

ENGINEERING CONTROLS

Good general ventilation should be sufficient to control airborne levels.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Equipment	Normally when good engineering controls are used, no respiratory protection is needed.
Eye Protection	Use tightly fitting chemical splash goggles. Wear face protection wear as appropriate.
Hand Protection	Use impermeable gloves. Neoprene gloves.
Body Protection	Use impervious clothing and chemical resistant boots. Consider using resistant coveralls and aprons, if extensive exposure is possible.
Other Protective Equipment	Ensure that eyewash stations and safety showers are close to the workstation location.
General Hygiene Consideration	Do not breathe mist or vapor. Avoid all contact. Do not eat, drink, or smoke when using this product. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Do not take contaminated clothes home.
Environmental Exposure Controls	Avoid runoff into storm sewers and ditches which lead to waterways. May be hazardous to the environment if released in large quantities.

9 PHYSICAL AND CHEMICAL PROPERTIES

Properties	
Vapor Pressure	Not applicable
Vapor Density	Not applicable
Boiling Point	Not applicable
PH	Not applicable
Specific Gravity	1.0 – 1.2 g/ cm^3
Viscosity	2500 cP
VOC content	0
Evaporation rate	Slower than n-Butyl Acetate
Solubility in water	Negligible
Other properties	Clear, slightly yellow liquid

10 STABILITY AND REACTIVITY

Stability	Stable under normal conditions
Hazardous Polymerization	Will not occur under normal conditions
Conditions to avoid	High temperatures
Incompatability with other materials	Oxidizing materials, acid, alkalis, peroxides.

11 TOXICOLOGICAL INFORMATION

11.1 Toxicological Information

May cause sensitization by skin contact.

11.2 Chronic Toxicological Effects

Skin sensitization.

11.3 Irritation or Corrosion

Skin irritation. Irritating to eyes.

11.4 Symptoms Related to Toxicological Characteristics

Skin irritation. Slight irritant to eyes.

12 ECOLOGICAL INFORMATION

12.1 General Ecological Information

Avoid release to the environment. Toxic to aquatic life with long lasting effects.

12.2 Ecotoxicity

Toxic to aquatic organisms (LC50 between 1 and 10 mg/L)

12.3 Persistence and Degradability

Not readily biodegradeable.

12.4 Bioaccumulation Potential

No data available.

12.5 Mobility in Soil

Not reported, unknown.

13 DISPOSAL CONSIDERATIONS

Waste Disposal Method

Incinerate or dispose of unused material, residues and containers in a licensed facility in accordance with all applicable local, state, and federal regulations. Do not discharge substance/ product into sewage system.

14 TRANSPORTATION INFORMATION

14.1 Identification, UN number	Not Regulated
14.2 Shipping Name	Epoxy Resin
14.3. Hazard Class	Not applicable
14.4 Packing Group	Not applicable
Transport over land ADR/RID	Not regulated for transport
Transport over sea IMDG	Not regulated for transport
Transport over air ICAO/IATA	Not regulated for transport

15 OTHER INFORMATION

Waste Disposal Method

Preparation Date	June 2, 2017
SDS prepared by	Weatherskin Corp. 403 656 9244

The information is furnished without warranty, representation, inducement, license of any kind, except that it is accurate to the best of Weatherskin Corporation's knowledge or obtained from sources believed by to be accurate Weatherskin Corporation does not assume any legal responsibility for use or reliance on same. Customers are encouraged to do their own tests.

DATA SHEET

WS 103 EXTERIOR EPOXY

WS 103 EXT 1.1 UV Exterior Epoxy is a high build, UV resistant, two component, 100% solids epoxy coating system used for applications up to 20 mils and is capable of self-levelling and may be tinted. Its exceptional heat and excellent chemical resistant properties makes the coating suitable for applications in harsh environments, such as humid conditions, without creating a foggy surface. WS 103's surface is capable of self-healing from minor scratches, to provide abrasion resistance under such conditions.

WS 103 is approved by CIA (Canadian Food Inspection Agency) if incidental contact should occur in federally and provincially inspected meat/poultry plants.

FEATURES

- **Excellent wear resistance in harsh industrial environments**
- **Flexible and self healing**
- **Can be applied in high humidity conditions**
- **Fill and hides minor surface imperfections**
- **Strong chemical resister**
- **Good workability**
- **Low odor**
- **May be used as a filler when mixed with sand**

USES

WS 103 fills and seamlessly hides surface imperfections, as well as hairline cracks, to become an integral component of the substrate as it is used on interior or exterior applications to waterproof and protect new or existing horizontal concrete structures (including: aircraft hangars, vehicle repair bays, paper mills, service stations, water treatment facilities, waste treatment facilities, meat packing and food processing facilities, dairies, canneries, etc.) and protect:

- **Substrate from chemicals including: gasoline, aviation fuel, brake fluids, alkalis and solvents**
- **Applications exposed to UV radiation**
- **Leakage and moisture intrusion**
- **Scaling and spalling**
- **Deterioration of reinforcing steel caused by chloride, acid, etc. ingress**

With outstanding chemical properties, WS 103 may be industrially, commercially and municipally used or for displaying multicoloured quartz aggregates. It is designed for one coat applications for up to 20 mils but may be built up within the re-coat window. When mixed with aggregates (sand), WS 103 may be used as a filler or to create a durable, skid resistant surface. All the while to prolong the life of a concrete floor and reduce maintenance costs.

Weatherskin Corporation®, 1120 44th Ave SE, Calgary, AB T2G 4W6
Email: team@weatherskin.com

SUGGESTED SYSTEM COMPONENTS

WS Primer	WS Epoxy Primer (refer to Product Information sheets re. WS Primer) or WS 103 diluted with 10% (max.) Epoxy Reducer
Topcoat or Intercoat	WS 103 Exterior Epoxy

SYSTEM ESTIMATING GUIDE

Primer	• Diluted with 10% (max.) of PSC Epoxy Reducer • Film thickness @ 5-6 mils • 270-320 sq. ft./gallon coverage
Topcoat	• Squeegee, roller or trowel application • Film thickness @ 12-20 mils • 80-130 sq. ft./gallon coverage
Intercoat	• Squeegee application • Film thickness @ 6-12 mils • 160-300 sq. ft/gallon coverage

Note: Coverage will vary according to surface texture and porosity.

GENERAL DATA

Standard Colors	**Clear, 01, 03, 04, 06, 10, 11, 13, 20, 21, 30, 35, 36, 41, 60, 63**
Solids Content	**100%**
Viscosity	**1400 CP @ 25.5°C**
VOC	**0**
Appearance	**Clear**
Finish	**Glossy**
Mix Ratio	**1 volume Resin (A) with 1 volume Hardener (B)**
Mixing Method	**Low speed jiffy mixer**
Pot Life	**40 minutes @ 20°C (68°F)**
Thinning	**Not recommended**
Flash Point	**Greater than 280°C (536°F)**

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Specific Weights	• **9.6 lbs/gallon (Resin)** • **8.1 lbs/gallon (Hardener)**
Recommended WFT	**6-20 mils**
DFT @ 6 mils WFT	**6 mils**
Coverage @ 6 mils WFT	**270 sq. ft./gallon**
Application Method	**Squeegee, roller or trowel**
Shelf Life	**6 months, unopened**

Note: Longer drying times are required for lower temperatures and/or conditions in high humidity.

CURING RESIN PERFORMANCE

DESCRIPTION	TEST METHOD	RESULTS
Solids Content	*ASTM D2597*	*100%*
Elongation at Break	*ASTM D638*	*30-80% *varies by temperature*
Adhesion	*ASTM D4541*	*350 psi *failure of concrete*
Fungus/Bacteria Resistance	*Mil-F-52505*	*No support of growth (TT- P-34)*

MAXIMUM TEMPERATURE LIMITS

Dry Heat	*110°C (230°F)*
Spills	*66°C (150°F)*
Immersion	*66°C (150°F)*
Cold	*-40°C (-40°F)*

Above temperatures are laboratory test results.

Test Section
Apply WS 103 in an inconspicuous area about 5x5 ft. and examine for compatibility with any existing coatings and adhesion. Refer to surface preparation and application instructions.

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Preliminary Floor Inspection and Surface Preparation

Ensure area is clean, stable, dry and at temperatures above 10°C/60°F and below 30°C/86°F for successful application. New concrete must be cured for at least 28 days. Test vapour drive according to ASTM D4263.

Perform following tests if there is any uncertainty to any present curing compound or other coatings on the floor:

- Pour a cup of water on 3 or 4 areas on the floor. If any water bubbles out, it's an indicator that there is no curing compounds or coatings within the floor. If water cohesion is present, it indicates curing compounds or other coatings are present. Remove by chemical or mechanical means.
- Drop muriatic acid on the floor. Acid bubbling indicates a curing compound or any other coating is not present.
- Examine for moisture presence. Test vapour drive according to ASTM D4263. Vapour drive should not exceed 3 lbs./1000 sq. ft./ 24 hours. Follow instructions according tot best kits. Remove any debris, residue, sealant or curing compounds and coatings before testing.

Remove any and all surface contaminants including: oil, grease, wax, dirt, laitance, and etc. To clean concrete, use mechanical methods such as: shot-blasting, scarification, and high-pressure water blasting. Sweep and vacuum remaining dirt and dust. Another method is to use Cleaner/Degreaser to remove surface contaminants. Follow up by rinsing and scrubbing using water. Do not use unbuffered un-buffered acids or other solvents to remove contaminants. Avoid sweeping compounds to remove dust.

Use of WS Primer

Clear application - WS 103 may be applied clear. Prepare by accurately measuring 1 part by volume of resin (A) and 1 part by volume of hardener (B) into a clean mixing container. Mix for 2-3 minutes and scrape sides and bottom of mixing container to ensure complete mixing.

Tinted application - WS 103 may also be applied tinted. Prepare by accurately measuring 1 part by volume of resin (A) with the colorant first into a clean mixing container, prior to mixing 1 part by volume of hardener (B) into a the tinted Part A/colorant mixture. Do not count the colorants into the volume ratio of the resin (A) and the hardener (B). If using more than a can of colorant, mix all colorant cans in a container prior to use to ensure consistent color as variations between cans/batches or small amounts of colorant left in cans can occur. Mix for 2-3 minutes using a low speed jiffy mixer and scrape sides and bottom of mixing container to ensure complete mixing. Avoid introducing air bubbles when mixing.

- Due to the difference in viscosity of the resin (A) and hardener (B), thoroughly mix both components to avoid partially cured and weak spots within the coating.
- When using a 110-gallon bulk drum kit, use a mixing ratio of 1 part resin (A) and 1 part hardener (B), by volume. Do not count colorants in volume ratio.
- Measurement accuracy is an essential component to the quality of product and color consistency between batches, if tinted.

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Colorant Data

Kit Size	*Colors (# 01, 03, 04, 06, 20, 21, 36, 41, 63)*	*Colors (# 10, 11, 30, 35, 60)*
2 Gallon Kit	0.5 quart	1 quart
10 Gallon Kit	2.5 quarts	5 quarts
110 gallon kit	Consult Weatherskin Corporation	Consult Weatherskin Corporation

Application

WS 103 may be used as is. Thinning or solvent reduction is not recommended. Apply by pouring a bead of material in a ribbon form on the surface to be coated. Do not leave material in container for long periods of time as material will set, reducing its pot life. Use a serrated squeegee to evenly spread poured material to its desired thickness using a slow and steady motion, without exceeding 20 mils with 1 coat. Back roll using a high-quality nap roller and avoid excessive agitation of the material, especially at thinner coats between 6-12 mils as it may result in pinholes or bubbles in film. Use a porcupine roller on thicker built surfaces (12-20 mils) after 10 minutes, to remove any excess bubbles.

Pot Life

Pot life of WS 103 is approximately 40 minutes @ 20°C (68°F). High temperature and humidity conditions will increase curing time and reduce pot life. Pot life is relatively short as it is not a solvent based system. Avoid mixing more kits of material that can be used within this period of time.

Curing Times

Maintain floor area between 15°C (60°F) and 30°C (86°F) during application and curing. For heavy-wheeled traffic and/or chemical spillages, allow for a 72-hour cure. Screening is necessary if WS 103 cures for longer than 24 hours before subsequent re-coats. Screen to the effect that a uniform dullness is achieved. No gloss should be present on the floor before applying the next coat

Curing Time

Temperature	10°C (60°F)	20°C (68°F)	30°C (86°F)
Tack Free	10-14 hours	8-10 hours	6 -8 hours
Re-coat	12-36 hours	8-30 hours	6-24 hours
Full Cure	72 hours	48 hours	30 hours

Clean Up

Clean equipment immediately after use with solvents, such as WS Reducer.

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Troubleshooting

Below is a list of commonly observed problems during application and possible causes.

- Fish Eyes - Oil contamination; Improper substrate cleaning; Mold release agents Improper mixing
- Slow cure - Low product, substrate or ambient temperature; wrong mix ratios or mixing; use of thinner on product
- Peeling between coats - Re-coat time past critical; coat contamination
- Peeling from substrate - Surface preparation insufficient; hydrostatic water pressure; oil impregnation
- Whitening - Excessive moisture exposure from substrate during curing; exposure to pooling water after full cure
- Coating soft, dulling - Improper mixing; use of thinner with product, extreme weather conditions
- Fast cure - High temperatures
- Bubbling - High temperatures; no primer used; improper mixing; overworked product

Quartz Broadcast

Consult Technical Bulletin regarding Weatehrskin's Granite Quartz System.

Seeded Floor System

One coat of WS 103 is required over primed substrate at 15-20 mils, seeded with 30-40 mesh round sand at 0.75 lbs./0.34 kg/sq. ft. Dry overnight and remove excess sand. Apply a second coat of tinted WS 103 and sand as before. Dry second coat and remove excess sand then topcoat using tinted or clear WS 103.

Slip Resistance Flooring and Coating

Embed approved aggregate into WS 103 to create a durable, slip resistance coating to provide excellent compressive and tensile strength properties designed for areas requiring a slip resistant finish. Perfect for highly oily manufacturing and assembly plants, for lift ramps and docks, (indoor) showers, lobbies and maintenance shops. Slip resistance requirements may be met by various additive grades. Degree of density of application may be altered for each facility's requirements. Determine the right amount of aggregate for the specific surface needs by evaluation.

Conductive Flooring System

Weatherskin Conductive Flooring System contains conductive components to provide conductivity and dissipation of static electricity. Perfect for airline hangars, computer and data processing rooms, electronic manufacturing and testing facilities and explosives manufacturing, assembling and handling facilities.

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Recommendations

- Always apply test patch in an inconspicuous area to confirm substrate compatibility
- Interior use only. When exposed to direct sunlight, coating will yellow and chalk
- Seal product immediately after use
- Use a single container to accurately measure the volumes of Part A and B. For accuracy in transfer, scrape the walls of the measuring container.
- Store product in cool dry temperatures between 10°C (50°F) and 30°C (86°F)
- Use clean, dry equipment only

Limitations

- **Avoid applying in direct sunlight in times of increased heat. May result in air bubbling underneath surface, wrinkling, blistering and pinholes.**
- **Not for applications of hydrostatic pressures above 3 psi/1000 sq. ft. Install adequate vapour barrier under slab when applying product or other epoxy coatings**
- **Not intended for immersion or below grade applications where moisture may reach underside of coating.**
- **Do not apply in temperatures below 10°C/60°F and above 30°C/86°F**
- **Do not thin (unless for priming purposes) as it will slow down cure time and reduce product quality. Re-coat times will also be affected.**
- **Do not spray product**
- **Do not freeze Part A or B**

Exposure Risks

WS 103 contains iso-hormone diamine and other proprietary aliphatic polyamines. Corrosive and may cause severe eye and skin burns. If swallowed, may be harmful or fatal resulting in lung damage as an aspiration hazard.

Proposition 65

WS 103 does not deliberately contain any materials listed by the State of California as carcinogenic or known to cause birth defects and other reproductive harms.

Shipping Information

Dangerous goods, Class 8, UN 1760, PG III.

VOC Content

Combined (Part A and B) contains 0 g/L of VOC.

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Precautions

Keep out of reach of children. Avoid any personal contact with product and use gloves and eye protection. If TLV is exceeded or product is applied in a poorly ventilated area, use NOISH/MSHA approved respiratory protection according to federal, state, provincial and local regulations, Avoid inhalation of vapours. Empty containers may contain hazardous residues. Observe all and any warning labels until container is commercially cleaned or reconditioned.

Safety

WS 103 is certified to be formulated without lead, mercury, asbestos or chromates.

First Aid

In case of eye contact, rinse for 15 minutes and consult a physician. For skin contact, wash thoroughly with soap and water. In case of ingestion, seek medical aid immediately— refrain from physically expelling product by vomiting. Seek medical aid immediately if inhalation results in persisting physical discomfort or breathing difficulty.

Refer to Material Safety Data Sheet (MSDS) for more information.

Maintenance

WS maintenance products are specifically formulated to protect and maintain WS coating surfaces. Clean surface periodically using WS Cleaner-Rejuvenator. Protect surface by regularly using WS Polish-Gloss or W-Satin liquid waxes.

Packaging

2 Gallon Kit (7.56 L kit)	10 Gallon Kit (37.8 L kit)	110 Gallon Bulk Kit (415.8 L kit)

Warranty Disclaimer

We guarantee our Products adhere to the specifications of Weatherskin Coatings. Weatherskin Coatings makes no warranty or guarantee, expressed or implied, including warranties of fitness for a particular purpose or merchantability, respecting its Products. Liability, if any, is limited to refund or purchase price or replacement of the Product. All consequential damages, labor and cost of labor are hereby excluded.

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