

# ZeraTuf™ W-104

## Clear Waterborne Aliphatic Urethane Coating



### DESCRIPTION

**ZeraTuf™ W-104** is an odourless, single component, waterborne aliphatic urethane floor coating. Recommended for interior and exterior applications. It cures at room temperature and it exhibits rapid hardness development and early water resistance. It offers a unique balance of toughness, aesthetics, and abrasion resistance. **ZeraTuf™ W-104's** excellent clarity makes it suitable for use over white or pastel stains or basecoats. The aliphatic nature of this product offers excellent non-yellowing properties.

**ZeraTuf™ W-104** may be used as a single component with good overall performance. However, in high traffic applications, the use of an additional cross-linker (**ZeraLink™ XL**) in the final topcoat(s) will maximize the cured properties, particularly abrasion and scuff resistance; as these applications require very high levels of performance. These areas would include sport floors or high traffic retail environments.

**ZeraTuf™ W-104** may be used over epoxy coating in areas subjected to UV by incorporating a small amount of nano-based UV Blocker to reduce the discoloration and damage effect on the epoxy coating underneath **ZeraTuf™ W-104** clear (ask Zeraus for details).

### WHERE TO USE

**ZeraTuf™ W-104** is designed primarily as a clear topcoat for interior and exterior applications over decorative floorings. Typical areas of use include restaurants and bars, studios and lofts, balcony decks, showrooms, retail stores, shopping malls, and residences. **ZeraTuf™ W-104** may also be used over hardwood floor and wood furniture.

### BENEFITS

- Odourless, safe and non-toxic
- Contains no volatile solvents, isocyanate or other hazardous materials
- May be used as one or two-part (with **ZeraLink™ XL** cross-linker) coating
- Rapid hardness development
- Fast drying; allows multiple applications in a single day
- Resistant to water, common house hold chemicals and cleaners
- Excellent adhesion to epoxy primers and acrylic coatings
- Outstanding UV resistance and gloss retention
- Non-staining or yellowing
- Excellent flexibility

- Available in high gloss, satin and matte finishes
- Breathable; yields film with good barrier properties
- Easy to apply using a roller or conventional spray
- Easy to clean and maintain with water and detergents

### HANDLING PROPERTIES @ 23°C (74°F)

Density.....	1.0 kg/litre (8.2lb./US gal)
Solids .....	35%
Viscosity, cps .....	150
Pot Life (with <b>ZeraLink™ XL</b> cross-linker)...	2-3 hrs
Application Temperature .....	12-30°C (59-86°F)
Thin Film Set Time.....	2 hrs
Re-coat Time.....	4 hrs
Normal foot traffic.....	10-12 hrs
Full cure & Maximum Strength.....	7 days

### DATA – Cured Film (7 days cure @ 23°C (74°F)/ 50% RH using 2% (wt) **ZeraLink XL** cross-linker)

Knoig Hardness .....	162
Gloss:	
High Gloss .....	88-90/
Satin Finish.....	28-30/
Matte Finish.....	8-10/
Pull Out Tensile Adhesion (to epoxy-coated concrete) (ASTM D4541).....	6 MPa (870 psi)
Concrete Failure	
Abrasion Resistance (ASTM D4060).....	29 mg loss (Taber Abrasion, CS-17 Wheel, 1000 Cycles)
Mar-Scratch Resistance, wt.in gms.....	9080
Scratch Resistance .....	90 (200 scrubs with a weighted abrasive pad, 100=no change in gloss)
Shoe Heel Resistance.....	9 (pass) (Pendulum Scuff Test, 10=no scuff marks)

### Chemical & Stain Resistance:

The product has excellent over all resistance to household chemicals, but not resistant to oven cleaner or pine oil-based cleaners. Please refer to the chemical and stain resistant chart.

**CAUTION:** Surfaces coated with this product may become slippery when wet. A non-slip additive may be used in certain applications (contact Zeraus for details).

### SURFACE PREPARATION

New concrete must be cured for a minimum of 28 days before applying **ZeraTuf™ W-104**. The substrate must be above 12°C (54°F) and must be free of all dirt, waxes,

previously applied coatings, oil, grease, laitance and any foreign matter that may interfere with the bond of the primer to the prepared substrate. Cracks and surface defects should be repaired prior to the application of the primer. Concrete surfaces to be coated should be mechanically cleaned to provide a clean tooth for the primer application. If acid-etching is the method of choice for the preparation of the concrete surface, the etched surface must be thoroughly flushed and dried for 24 hours prior to the application of the primer. **Use ZeraPrime W-48FS, ZeraSeal W-50UL, or ZeraCryl W as a concrete primer.**

ZeraTuf™ W-104 adheres very strongly to epoxy coatings of all types. The epoxy floor to receive ZeraTuf™ W-104 must be clean, dry and free from contaminants. Sanding with 60-80 mesh grits is recommended.

#### APPLICATION

ZeraTuf™ W-104 may be applied with a roller, spray or brush. A spray technique offers the best performance for film consistency and appearances. For spray applications, ZeraTuf™ W-104 may be thinned with water (5% by volume) to a viscosity of 22 secs (Zhan cup #2). Maintain uniform thickness along the entire floor. **Remove excess before drying.**

Air spray: suggested equipment, or equivalent:

Nozzle size 1.8- 2.0 mm and atomizing air 2.8-3.2 bar.

Airless spray:

Tip orifice is 0.011 to 0.015", atomizing pressure: 2700-3300 psi.

Roller Application:

It must be noted that every contractor has his/her own technique in applying a clear coating to obtain an attractive and defect-free finish. The following are just guidelines:

Ideally a lint free 9 mm nap roller is used to apply ZeraTuf™ W-104. On larger jobs, we recommend using a commercial 18" roller.

Apply the coating, with a minimum pressure, in a uniform consistent pattern in a one pass application to provide an even coat. **DO NOT ALLOW THE FRESH EDGE OF THE COATING TO DRY. If the coating begins to "clarify" (begins to change from milky white to clear), the coating is curing. Do not roll back into this coating at this stage, as this will create lap marks, hazing, and other differences in the cured coatings appearance. Also avoid heavy applications and puddling.** Two to three coats at a coverage rate of 300-500 sq. ft./U.S. gallon is recommended depending on the porosity of the surface being coated. Allow 4 hours drying time between coats or 12-16 hours for traffic.

**It is recommended that the cross-linker ZeraLink™ XL be used in the topcoat(s), particularly in heavy-pedestrian traffic applications.** Slowly add Part B (ZeraLink™ XL) into ZeraTuf™ W-104 under agitation for 2 minutes. Apply the coating over a properly prepared surface.

Curing:

The finished floor will take normal foot traffic after overnight drying but may remain susceptible to marking by furniture or heavy traffic until fully cured for 3 days after application. **(Do not cover the coating until fully cured. Minimum 3 days @ 23°C (74°F))**

#### LIMITATIONS

- Avoid puddling or applying the coating in a thick film as it may cause shrinkage, cracking, and poor adhesion.
- Applying ZeraTuf™ W-104 over a highly damp surface or a thick film may cause whitening that may not disappear over time.
- If multiple coats are required, reapply within 24 hours; otherwise, light sanding is required to achieve good inter-coat adhesion.
- Not recommended for warehouse facilities, industrial applications, exterior woodwork, decks, garage floors, driveways, or vehicular traffic.
- Not resistant to hot tire pickup.
- It will require 7 days of cure (with ZeraLink™ XL) to achieve maximum performance.

#### TROUBLE SHOOTING

Slow dry or clearing: Low curing temperatures; high humidity; lack of ventilation after application.

Streaks: Product applied too thin.

Fish eyes: A foreign material on the surface, like oil, grease, or silicone.

Bubbling: Overworking the product with applicator: shaking the finish before applying; or, high temperatures during application.

Peeling: Improper floor preparation.

Dirt Particles: Applicator not "de-fizzed" causing loose fibers in the film; or, room vents not sealed during the application.

Screen marks: Using too aggressive a screen between coats.

Hazy film: High humidity during drying.

Lap Marks: Not maintaining a "wet edge" when applying the coating.

#### COVERAGE

A two-coat application (over primer) is required in most applications.

Roller: 10.5 m<sup>2</sup>/L (420ft<sup>2</sup>/U.S. gallon) per coat

Spray: 16 m<sup>2</sup>/L (650ft<sup>2</sup>/U.S. gallon cut 5% by volume)

**PACKAGING**

3.79 Litre (1 U.S. gal.)

18.9 Litre (5 U.S. gal.)

**CLEAN UP**

Clean up all equipment with water prior to material set.

**SAFETY PRECAUTION**

Consult the Material Safety Data Sheet (MSDS) for specific instructions. Product is not regulated.

**STORAGE**

Store in a heated warehouse. Do Not Freeze.

**SHELF LIFE**

One year from the date of manufacture if kept in the original unopened containers under normal heated warehouse conditions.

**WARRANTY**

“The recommendations made and the information herein is the result of accurate laboratory and field tests under controlled conditions. We guarantee that the quality and properties of the materials supplied conform to our standards. Zeraus Products Inc. makes no warranties, expressed or implied, as uses and applications are beyond our control. Zeraus Products Inc. shall not be liable for any injury, loss, or damage (direct or consequential) arising from use or inability to use the products. Before using, the user is urged to pre-test the products in his/her own environment to determine the suitability of the products for their intended use, and the user assumes all risk and liability whatsoever in connection therewith.

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