

# ZeraTuf™ W-104

## Clear Waterborne Urethane Acrylic Coating

### DESCRIPTION

**ZeraTuf™ W-104** is an odourless, single component, waterborne **self-cross-linking**, hybrid aliphatic urethane-acrylic floor coating. **ZeraTuf™ W-104** was specially formulated to provide performance properties on par with 2k waterborne polyurethane coatings. The water white colour and excellent clarity make this product suitable for use over white or pastel stains or basecoats.

**ZeraTuf™ W-104** displays a unique balance of rapid hardness development, as well as mar, scuff and black heel mark resistance. The **ZeraTuf™ W-104** also has excellent stain resistance against alcohol, foods, and common chemicals, as well as excellent stain resistance against standard commercial floor cleaners.

**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.

### WHERE TO USE

**ZeraTuf™ W-104** is designed primarily as a clear topcoat for interior applications over decorative floorings. Typical areas of use include restaurants and bars, studios and lofts, showrooms, retail stores and 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
- Outstanding scratch, scuff, mar and wear resistance
- Resistant to black heel marks
- Rapid hardness development
- Fast drying; allows multiple applications in a single day
- Superior water, solvent and chemical resistance

- Excellent stain resistance against foods, and commercial floor cleaners
- Excellent adhesion to epoxy primers and acrylic coatings
- Outstanding UV resistance and gloss retention
- Non-staining or yellowing
- Available in high gloss, semi-gloss, satin and matte finishes as well as a non-slip finish
- Breathable; yields film with good barrier properties
- Easy to apply using a roller or conventional spray
- Can be used for both wall and floor applications
- Easy to clean and maintain with water and detergents

### Handling Properties @ 23°C (74°F)

Application Temperature	..... 12°C- 30°C (54°F-86°F)
Density	..... 1.0 kg/litre (8.2 lb./US gal)
Solids	..... 35 %
Viscosity, cps	..... 150
Pot Life (with <b>ZeraLink™ XL</b> cross-linker)	.. 2-3 hours
Minimum Application temperature,	..... 15°C (59°F)
Thin Film Set Time	..... 2 hours
Re-coat Time	..... 4 hours
Normal Foot traffic	..... 10-12 hours
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°
Semi-gloss	..... 40-45°
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 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 additives may be used in certain applications (contact Zeraus for details).

**APPLICATION**

**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 preparation of the concrete surface, the etched surface must be thoroughly flushed and dried for 24 hours prior to application of the primer. **Use an epoxy-based primer such as ZeraPrime™ W-30FS (or ZeraPrime™ W-20GP) over prepared concrete surfaces or ZeraPrime™ W-10AU acrylic urethane primer over a cementitious overlayment finish.**

**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 sec (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 defects-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.

For a porous decorative cementitious overlayment surface, you must use waterborne epoxy (**ZeraPrime™ W-50UL**) or waterborne acrylic urethane, **ZeraPrime™ W-10AU** as the primer.

**It is recommended that 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 as 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, garages, or vehicular traffic.
- 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-fuzzed” causing loose fibers in the film; or, room vents not sealed during the application.

Screen marks: Using too aggressive of a screen between coats.

Hazy film: High humidity during drying.

Lap marks: Not maintaining a “wet edge” when applying the coating

## PACKAGING

**ZeraTuf™ W-104 :**

3.79 litre (1 U.S. gal)

18.9 litre (5 U.S. gal)

**ZeraLink™ XL (cross-linker) is sold separately (optional):**

78 gm. (for 3.79 L unit)

390 gm. (for 18.9 L unit)

## COVERAGE

**A two-coat application is required.**

Roller: 7.4 to 12.4 m<sup>2</sup>/L (300 to 500 ft<sup>2</sup>/U.S. gallon per coat)

## CLEAN UP

Clean 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

Protect from freezing. Store under normal heated warehouse conditions.

## SHELF LIFE

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

## WARRANTY

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