TECHNICAL DATA SHEET

# Hardbond 4000 Summer & Tropical




**Distributor**

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**The Hardbond 4000 is a low-odor, high-solids, two-component (1A:1B) and non-yellowing polyaspartic for concrete floor coating commonly used with vinyl flakes. The clear version is used as a protective topcoat. Hardbond 4000 formulation includes Advanced Opacity Technology which reduces chip repulsion effect and allowing pigments to remain on top of the substrate therefore improving coverage and aesthetics. Hardbond 4000 offers two variations (Summer - Prolonged Working Time (+), and Tropical - Extra Working Time (XT)). Hardbond 4000 provide optimal work time cure time ratio. The utilization of Hardbond 4000 allows the installation of a full floor system in one single day, with rapid return to service. The product displays excellent curing capability even at very low temperature levels. This product offers superior mechanical and chemical properties and is low maintenance. It also displays a superior aesthetic finish and excellent UV stability which makes it ideal for exterior applications. Two or three-coat systems can be considered.**

## UNIQUE ADVANTAGES

- Faint odor, Non-yellowing
- High-solids content, 85%
- Reduction of the chip repulsion effect
- Up to 15% less topcoat needed
- Excellent impact and abrasion resistance
- Easy to use 1A:1B system with common hardener for the base coat and topcoat
- Ideal for exterior applications
- Superior gloss finish

- XT version offers up to 30 minutes working time
- Possible to install two or three-coat systems
- Easy to install due to the very low viscosity
- Very long recoat window and pot life
- Excellent chemical and mechanical resistance
- Impermeability / low moisture sensitivity
- High density of the product prevents dirt penetration resulting in low maintenance
- Cures quickly – recommended to obtain best curing at very low temperature levels (below -10°C /14°F)

## PROVEN INDUSTRIES

**Commercial:** commercial centers, office buildings, retail stores
**Institutional:** corridors, loading docks, storage facilities, public facilities including hospitals and schools
**Government:** parking garages
**Residential:** garages and decorative concrete floors
**Industrial:** manufacturing facilities, warehouse, production areas, mechanic shops

## PACKAGING

**2 components, 1:1 ratio (1 Parts A : 1 Part B)**

**10 US gallon kits (2 x 18.9L)**

**Color:** Clear

## COVERAGE RATES

| Mils | Sq. Ft. |
|---|---|
| 4 | 400 |
| 6 | 267 |
| 8 | 200 |
| 10 | 160 |
| 12 | 133 |
| 14 | 114 |
| 16 | 100 |

## SHELF LIFE

1 year in original unopened factory pails under normal storage conditions

## CURE TIME

| Version | Summer (+) | Tropical (XT) |
|---|---|---|
| Working Time | 25 min | 30 min |
| Tack Free | 1h 15 | 1h 30 |
| Recoat | 1h 15 – 24 h | 1h 30 – 24 h |
| Dry Through | 6 h | 8 h |
| Foot Traffic | 24 h | 24 h |
| Light Traffic | 48 h | 48 h |
| Full Cure | 2 Weeks | 2 Weeks |
| **Pot Life** | | |
| 250 ml | 20 min | 20 min |
| Larger Volumes | 30 min | 30 min |

## TECHNICAL DATA

| | |
|---|---|
| Hardness ASTM D2240 Shore D at maturity | 70 |
| Abrasion Resistance ASTM D4060 (Taber Abraser, Wheel CS 17/1000 g (2.2 lbs) / 1000 cycles) | 30 mg loss |
| Pull Off Test ASTM D4541 | >3 Mpa |
| Elongation at break ASTM D638 | 150% |
| Tensile Strength ASTM D638 | 7150 psi |
| Compressive Strength ASTM D695 | 8600 psi (59 Mpa) |
| Impact Resistance (direct) ASTM D2794 ft lb | <9 |
| Solids Content by Volume | 85% |
| Viscosity (cps) | 300 +/-50 |
| VOC Content | 169 g/l |

Testing was conducted at 22°C (72°F) with a relative humidity of 50%, unless specified otherwise.

## SURFACE PREPARATION

Concrete should be clean, dry and free of grease, oil, paint, curing agents or any contaminants that may inhibit proper adhesion. Concrete should be cured at least 28 days before applying the coating system. If the concrete slab has been installed within 28 days. A moisture Vapor Barrier should be considered.

Proper testing procedures should be practiced with regards to moisture vapor transmission. Use a Tramex® CME / CMExpert to measure the moisture content of the concrete slab. Moisture content must be below 4% before applying the product. It is necessary to take several measurements at various places on the slab. If the reading is higher than 4%, steps will be required to neutralize the soil moisture. The first thing to do is to make sure that the floor is completely dry before application.

Surface must be shot blasted or prepared with an equivalent mechanical means in line with CSP-2 or more depending on the application. Ensure the surface is free of contaminants, and the pores are open to allow the product to penetrate.

We recommend the use of a sander equipped with a sponge pad which will follow the profile of the surface and allow the sandpaper to reach the low points between the flakes. It is necessary to sand in a multidirectional way. Repeat until a matte finish is achieved on the entire floor. It is also necessary to use xylene to remove all dust after sanding and to soften the existing layer so that it can bond with the new layer. The use of xylene for this task is mandatory as it will soften the previous coat for better adhesion. The xylene must be completely evaporated before applying the next coat.

**Tip:** Spreading some grade #32 silica sand on the floor surface before sanding will increase the efficiency reaching lower areas between flakes.

**IMPORTANT:** Adhesion of Hardbond 4000 on a MVB can only be achieved on a full silica broadcast-to-rejection. EVEN WITHIN THE 24 HOUR RECOAT WINDOW. We recommend using silica sand grade #32.

Once cured, the base coat with the flakes should be scraped and cleaned after appropriate hardness is reached prior applying the topcoat.

## MIXING INSTRUCTIONS

The mixing container must be clean and free of any outside particle. Mix thoroughly for a minimum of three minutes, until a completely homogeneous mixture is obtained. Use a low speed drill (300-450 rpm) to minimize the entrapping of air. It is recommended to activate the mixer in the reverse mode after 90 seconds for the liquid to mix from the bottom of the mixing can to the top. Make sure to scrap sides and bottom of mixing container so no unmixed material remains. Mix only the necessary quantity to be used according to the specified pot life / working time.

## APPLICATION INSTRUCTIONS

Best results will be obtained between -10°C / 14°F et 30°C / 86°F and with a relative humidity of less than 80%. This product will also cure at temperatures as low as -30°C / -22°F. If a heated floor is installed, ensure that the system is turned off during application and for the full duration of the cure. The product has been specially designed to adhere on concrete surfaces. Once the surface has been properly prepared, squeegee and back roll the product. It is recommended to apply the product in a multi-directional (north-south, east-west) motion to ensure proper coating thickness.

Do not exceed a thickness of 30 mils for the entire system as solvent entrapment may occur above those levels.

It is also possible to use the Harbond 4000 Clear as a protective coat over epoxy. In addition to offering a superior chemical resistance and cleanability, the Hardbond 4000 Clear also provides additional UV protection that will significantly slow the yellowing of epoxy over time. When used as a protective layer on epoxy, a thickness of 10 mils is recommended.

## LIMITATIONS

Drying time will be faster in a hot and/or humid environment. Conversely, the drying time will be longer in a cold and/or dry environment. Do not clean the finished surface during the week following installation. Keeping the product stored at room temperature.

In the event that dew point conditions lead to condensation persisting above the concrete surface, and for which the grinding process fails to eliminate this condensation, it is crucial to thoroughly dry the surface before installation. Neglecting this step may result in shortened working times and/or issues with adhesion. The usage of direct-fired, unvented and certain other heat sources are not recommended as they emit byproducts that may negatively impact the curing process of the resin and lead to defects such as amine blush, whitening, loss of adhesion, or other surface imperfections.

## SLIP RESISTANCE

Allsource Supply Inc. recommends the use of traction additives in all coatings or flooring systems that may be exposed to wet, oily or greasy conditions. It is the contractor's and end users' responsibility to select and provide a flooring system that meets current safety standards. Allsource Supply Inc. makes no claims of longevity of SCOF or DCOF results. Allsource Supply Inc. will not be responsible for injury incurred in a slip and fall accident.

## MAINTENANCE INSTRUCTIONS

After completing the application of Hardbond 4000, routine sweeping, mopping, washing and mechanical scrubbing is recommended. Cleaning with plain water is suitable in most environments. Use pH neutral cleaners if necessary. The installer should provide the owner with maintenance instructions. Clean and rinse thoroughly if floors become slippery due to animal fats, oil, grease, or soap film.

## WARRANTY

Allsource Supply Inc. products are warrantied to be of uniform quality within manufacturing tolerances. Since no control is exercised over product use, no warranty, expressed or implied, is made to the effects of such use. The seller and manufacturer's obligations under this warranty shall be limited to refunding the purchase price of that portion of the material proven to be defective. Contact your representative for more information.