

Self-Leveling Underlay

DESCRIPTION • *LevelCrete 900* is a powdered single component, uncolored, flowable, self-leveling cementitious underlay that cures quickly to a hard-wearing topping to receive other floor finishes such as carpet, vinyl sheeting, ceramic tile, wood parquet, or cementitious toppings for interior applications. *LevelCrete 900* is applied in thicknesses ranging from featheredge to 10 mm in a single layer, and for larger thicknesses up to 20 mm with the addition of quartz aggregates.

USES • *LevelCrete 900* underlay is used to level and restore existing floors, correct construction errors, or as a follow-up to rough screed finishes. It is ideal for sub-floors where a thin underlay installation is required over old or new floors constructed of cast-in place concrete, pre-cast concrete, wood, tile, or terrazzo. *LevelCrete 900* underlay is self-finishing and accepts practically any floor covering. Typical applications include interior commercial and residential flooring projects.

ADVANTAGES •

- ✓ Cost-effective solution for correcting construction errors.
- ✓ Fast and reliable turn-around solution to floor leveling problems.
- ✓ Quick and easy self-finishing installation.
- ✓ Highly flowable and self-leveling.
- ✓ Quick curing time: ready to walk on in 3 hours.

TECHNICAL DATA •

Tensile Adhesion (EN 12808-3:2002)	0.67 N/mm ²
Flexural Strength (EN 12808-3:2002) @ 30 Days	4.7 N/mm ²
Compressive Strength (ASTM C109)	
1 Day	11 N/mm ²
7 Days	23 N/mm ²
28 Days	27 N/mm ²
Abrasion Resistance (ASTM D4060-19)	910 mg
Brinell Hardness (BS EN 13892:2002)	92.4 N/mm ²
Shrinkage (DIN EN 12808-4)	3.5 mm/m

COVERAGE • Coverage will vary depending on substrate surface profile, required depth of installation, surface finish and preparation method. Theoretical coverage rate is approximately 2 square meters per 25 kg bag at a 5 mm thickness.

LIMITATIONS • *LevelCrete 900* must be applied over structurally sound and non-moving surfaces. Do not apply in areas subject to negative hydrostatic pressure. All joints in the existing substrate must be extended through the full depth of the *LevelCrete 900* topping, allowing for the simultaneous expansion and contraction of the substrate and the *LevelCrete 900* layer. Cracks or joints in the existing substrate may reflect through *LevelCrete 900* topping. Sub-floor movements, such as those resulting from building vibrations or extreme temperature changes, may result in cracking or fine hairline cracking of the *LevelCrete 900* underlay.

Existing concrete surfaces must be cured prior to installation of *LevelCrete 900*. *LevelCrete 900* is not suitable for installation over gypsum-based surfaces, light weight concrete, and concrete with high water vapor emission rates. Failure to remove any coatings, oil, grease, or other contaminants may impede the bonding between the *LevelCrete 900* underlay and the substrate, leading to bond failure and delamination.

LevelCrete 900 was designed for interior applications only; do not use for exterior applications. *LevelCrete 900* is intended as an underlay only; it should not be used as the final topping or as an overlay. For applications exceeding 10 mm in thickness, the overlay powder must be mixed with pea gravel or quartz aggregates to extend the topping thickness coverage; alternatively, *LevelCrete 900* may be installed in multiple layers.

LevelCrete 900 is a self-leveling topping that must not be screeded or worked. Therefore, it must not be used to achieve a sloped surface.

Do not install if ambient temperature is expected to drop below 5°C during installation or in the proceeding 48 hours, or if rain is expected in the proceeding 24-hour period after application. Do not mix or apply when ambient temperature is expected to exceed 35°C.

SURFACE PREPARATION • All bases must be cured, sufficiently rigid, and clean of any surface contamination such as oil, dirt, grease, coatings, curing compounds, and laitance that may prevent good suction. Dense, smooth surfaces, and those retaining excessive amount of form release agent can cause delamination from the base. Any painted or coated surfaces should be sandblasted and/or grinded to remove existing coatings. Use of detergents or soap to clean the substrate is not recommended as they may leave a film that can cause bonding failure. Dense, non-porous surfaces, such as tile or burnished concrete must be opened by mechanical abrasion.

LevelCrete 900 Self-Leveling Underlay

Surrounding areas should be covered and protected from material spills and equipment contact. Rope off work area, remove surrounding vehicles, and close off to traffic.

Cracks should be corrected with a filling compound such as *PatchCrete 102 Crack Filler* or *CTS CementAll*. Surfaces that are not sound must be removed and patched with *PatchCrete 101 Multi-Use Repair Mortar*, *CTS CementAll*, or *CTS Mortar Mix Plus*.

After the sub-floor is repaired and cleaned as outlined it is highly recommended to prime porous concrete surfaces with a coat of *A-Z Prime Bond*; two coats may be necessary for highly porous substrates. The primer should be roll applied uniformly over the entire sub-floor surface without puddling, ensuring that it is adequately absorbed into the surface. The underlay material should be applied while the coat is still tacky.

MIXING • Mixing should be done with a two-stage pumping and mixing machine or a drill-mounted jiffy-type mixer at low speeds. The volume of water added must be accurately measured. Over-watering causes laitance and weakening of the underlay surface, and under-watering decreases workability. Approximate mixing ratio is 6.5 liters of water per 25 kg bag.

The depth of installation will determine if quartz aggregates must be added to the mix as follows:

- Feather edge to 10 mm: no quartz added.
- 11 mm to 20 mm: 8 kg fine quartz (0.4-0.8 mm) per 25 kg bag of *LevelCrete 900*.

In order to avoid the formation of lumps, it is important to always add water first to the mixing container; then slowly add *LevelCrete 900* powder while mixing at slow speeds. Mix for a minimum of three minutes before finally adding the quartz if needed. Mix until a smooth, uniform, lump-free fluid is obtained.

APPLICATION • Application temperatures should be between 15°C and 35°C. It is highly recommended to test a small area to ensure bonding ability and satisfaction of appearance before complete application. The work life of *LevelCrete 900* will vary depending on the ambient temperature and humidity; work life is approximately 30 minutes at 21°C and 50% relative humidity. The underlay material should be installed as soon as possible after mixing and must not be re-tempered. Never use any mixed materials beyond its work life or add to a new mix. The fluid underlay mixture should be placed by pouring or pumping over the

primed sub-floor and allowed to self-level, spreading gently as required to the desired thickness with a CAM gauge rake. Immediately after placement, run a spike roller over the surface of the topping to release entrapped air bubbles.

Setting time varies with ambient temperature, humidity, sub-floor porosity, and temperature. The underlay surface may be walked on gently without cleats after it has reached sufficient strength, a minimum of approximately 3-4 hours after installation. The area may be opened to light foot traffic at least 24 hours after installation.

All joints in the existing substrate must be extended through the full depth of the *LevelCrete 900* topping by saw cutting, allowing for the simultaneous expansion and contraction of the substrate and the *LevelCrete 900* underlay. Joints should be made full depth, placed precisely over existing joint positions in the sub-floor. Saw-cutting may begin 4-8 hours after installation of the underlay.

CLEANING • Clean all tools and equipment promptly with clean water.

STORAGE & SHELF LIFE • Keep material covered and off the ground to prevent exposure to moisture. Store in a dry, covered area away from direct sunlight. Under recommended storage conditions and when stored in original unopened packaging, expected shelf life is 12 months from the date of purchase.

SAFETY PRECAUTIONS • KEEP OUT OF REACH OF CHILDREN. DO NOT TAKE INTERNALLY. CONTAINS CEMENT AND SILICA (QUARTZ). Portland cement and silica based products present health hazards. May cause delayed lung injury (silicosis). Irritating to eyes and skin. Use in adequate ventilation and do not breath dust. Extremely fine material, always use a NIOSH/MSHA TC 21C approved dust mask when handling, especially during spray applications. Use neoprene gloves, safety goggles, and a dust mask when handling. FIRST AID: Eyes – Do not rub eyes, immediately flush with fresh water. Skin – Wash with soap and water. Inhalation – If experience difficulty breathing or if inhaled, move to fresh air. If symptoms persist, seek medical attention.

PACKAGING • 25 kg bags.

Creative Concrete Concepts

PO Box 925794, Amman 1110, Jordan; Tel +962-6-487-4078, Fax +962-6-488-9133 • PO Box 91234, City of Industry, CA 91715-1234, USA; Tel +1-909-266-0709, Fax +1-909-266-0711 • PO Box 31017, Sharjah, UAE; Tel +971-6-532-1119, Fax +971-6-532-8833