

## Self-Levelling Polyurethane-Cement Based Floor System

### Description

D-Cem SL is the new generation of polyurethane concrete by Ducon Asia, a self-levelling seamless flooring system designed for medium-duty industrial & commercial applications applied between 4mm and 6 mm. D-Cem SL exhibits good resistance to thermal shock, impacts, abrasions, and chemicals.

The system product consists of liquid components [Parts-A], [Part-B] and powder components [Part-C] filler, [Part-D] colour pigment available in standard and various colours.

### Benefits & Advantages

- Provides Seamless finish having total thickness of 4 mm up to 6 mm.
- Easy to apply and install due to its self-levelling proprietary.
- Withstand steam cleaning with a thermal shock up to 70°C.
- Resistant to abrasions and physical impacts
- Resistant to wide range of common chemicals and detergents with non-staining effects.
- Provides a non-slip floor finish in both wet and dry conditions.
- Reduce the microbial growth leading to a hygienic medium.
- Non-taint having low VOC
- Self-priming
- Retains physical properties through wide temperature range from -20°C to 120°C, depending on total applied thickness

### Physical properties

Form	Four components system Part A: Liquid Part B: Liquid Part C: Powder Part D: Powder
Colour	Wide range
Mixed Density (fresh)	1.8 ± 0.05 Kg/L

Foot Traffic	18-24 hours
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	20- 25 mins @ 25°C
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Pot life	15- 20 mins @ 30°C
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Shore Hardness	85± 3(D)
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ASTM D2240	95±3 (A)
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@ 21 days

Compressive Strength	40 MPa @ 7 days
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ASTM C579	45 MPa @ 28 days
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Flexural Strength	5 MPa @ 7 days
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ASTM C580	7 MPa @ 28 days
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Abrasion Resistance ASTM D4060 (H22,1000 cycles,1kg)	≤0.6 g
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Slip Resistance (Pendulum Test)	68-75 PTV (Dry Condition)
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BS EN 1341	35-40 PTV (Wet Condition)
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Thermal Compatibility with Concrete ASTM C884 (4 cycles, -20°C	Pass (no cracks or delamination)
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up to 50°C)	≧
Pull off Bond Strength to Concrete ASTM D7234	≧1.5 MPa (Concrete Failure) ≧

- During and within 12 hours of application, ensure that the ambient and substrate temperatures are between 10°C and 35°C.
- Surface temperature is at least 3°C above dew point temperature.
- It is recommended to use a single batch of D - Cem SL PUR-SL for a continuous wet application to ensure colour uniformity.
- D - Cem SL does not withstand negative water pressure.

### Statement of Responsibility (Disclaimer)

The technical information and application advise are based on present state of our best scientific and practical knowledge. As the information herein of a general nature, no assumption can be made as to a products suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

# D - Cem SL

## TECHNICAL DATA SHEET (TDS)



### Application Areas & Uses

D-Cem SL is suitable to be applied in both Commercial and industrial buildings such as:

- Food Processing Plants
- Wet and dry process areas
- Hot and cold process and storage areas.
- Chemical process plants & laboratories

### Coverage / Yield

20 kg Kit of D - Cem SL yields between 11 L and 11.5 L of fresh materials that covers 2.75-2.85 m<sup>2</sup> @ 4 mm DFT.

### Application instructions

#### Surface preparation

The concrete should be minimum cured for 7 days achieving a minimum compressive strength and pull off strength of 25 MPa and 1.5 MPa respectively. The concrete surface moisture content shall not exceed 10%. Early curing movement, shrinkage or cracking that may occur at later stages in the concrete in will be reflected through the final D - Cem SL flooring.

Concrete surfaces are to be mechanically prepared to remove laitance, curing compounds and contaminations to achieve a sound and rough surface. The recommended mechanical means are limited to shot blasting, grit blasting or scarification to achieve a concrete surface profile between CSP 4 and CSP 9 as per ICRI Technical Guideline.

To prevent lifting or delamination during curing time and under service conditions, keyways and anchor joints must be cut at all terminations, joints, columns, doorways, walls and drains. For further detailing of terminations and locking, refer to method statement.

The final step in cleaning should be complete removal of all residues with an industrial vacuum cleaner.

The concrete surface should be free from dust and loose particles that may impede adhesion.

#### Mixing

D - Cem SL is a ready to mix four components material that requires the utilization of suitable heavy-duty high-speed drill-mixing paddle assembly to ensure a complete mix and to reduce the risk of introducing excessive air into the mixture. Mix the

liquid [part-A] in its original packing to achieve a homogenous mixture, dispense the color pigment component [Part-D] whilst the mixer is in the running mode and further mix for 1 to 2 minutes until a well-blended homogeneous color mixture is achieved. Add [Part-B] whilst mixing for additional 1 to 2 minutes. Dispense gradually [part-C] and further mix for an additional of 2 to 3 minutes until all particles are wetted out and a homogenous and flow-able consistency is achieved.

#### Priming & Scratch Coat

Properly mixed material should be spread over the prepared surface using steel trowel or scrapper maintaining the required thickness of 1 to 1.5 mm, broadcast CIKO ASG (0.5-1mm) or (0.3-0.5 mm) over the wet applied scratch coat to create a mechanical key bonding with body coat. Allow the material to cure for 18 to 24 hours. Remove all excess of unbonded CIKO ASG by vacuuming prior to overlay the body coat D - Cem SL.

#### Application of D - Cem SL

Immediately after mixing and within maximum 3 minutes, spread the mixed D - Cem SL onto the floor at the desired thickness using cam rake or pin screed rake. Lay abutting edges within 10 minutes to ensure a clean edge. Maintaining a wet edge is important in avoiding lines and ridges on the finished floor. Back roll in two directions across slurry with a spiked roller to help settle and even out the finish. Care shall be taken during spike rolling not to leave spike roller marks. This is strictly depending on placing time of material post mixing, ambient temperatures and ambient conditions. Generally, and under controlled temperature of 25°C the material will self-heal spike roller marks within maximum 15 minutes.

#### Recommendations

Mock-ups and field test areas are required in order to validate performance and appearance related characteristics to ensure system performance as specified for the intended use, and to determine approval of the coating system including but not limited to:

- Colour
- Inherent surface variations
- Wear and abrasion resistance

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**Ducon Polymer Flooring (DPF)**

[www.duconasia.com](http://www.duconasia.com)

- Chemical resistance and stain resistance

Job site variability must be confirmed and assured including but not limited to:

- Surface preparation and profile
- Sunlight and exposure
- Relative humidity
- Dew point temperature
- Ambient and substrate temperature

During application of D - Cem SL products may lead to fisheyes, blistering, pinholes, wrinkling, or outgassing of air in the concrete and are not product defects. Priming, shading or evening application may be required. Refer to Precautions section for further details

D - Cem SL is recommended for professional use only.

## Maintenance

The long-term performance, appearance, and life expectancy of wear surface products are critically dependent upon a good routine of cleaning and maintenance program where required designed specifically for the installed wear surface. CIKO ME floor coating systems are nonporous, causing dirt and contaminants to remain on the surface. Recommend maintenance program consist of frequent and thorough cleaning utilizing a neutral pH cleaner.

Frequency of washing will vary depending on floor usage type, traffic and age.

## Cleaning

Used tools must be well cleaned with Ducon Primer directly after usage.

## Packaging

D - Cem SL is available in 20 kg kits consisting of Parts A, B, C and D.

## Storage

D - Cem SL ,should be stored under cool and enclosed shaded area between 5°C and 25°C away from direct sunlight, moisture and water.

## Shelf life

D - Cem SL has a shelf life of 6 months if stored in accordance with Ducon Asia instructions.

## Precautions

- At temperatures exceeding 35°C, the workability, pot life and self-healing properties of the mixed material is reduced and affected.
- Do not apply the material under direct sunlight. The cured material will colour fade when subjected to UV rays.
- For thicknesses higher than 6 mm consult CIKO technical service department
- During and within 12 hours of application, ensure that the ambient and substrate temperatures are between 10°C and 35°C.
- Surface temperature is at least 3°C above dew point temperature.
- It is recommended to use a single batch of D - Cem SL for a continuous wet application to ensure colour uniformity.
- D - Cem SL does not withstand negative water pressure.
- Do not apply D - Cem SL over soaked concrete or standing water.
- D - Cem SL is only suitable for concrete substrates.

## Health & safety

Use standard dust mask to avoid inhalation of dust. Powder when wet or moist can cause burns to skin and eyes which should be protected during use. If comes in contact with skin/eyes, flush with plenty of fresh water and seek medical advice.

Refer Material Safety Data Sheet for further details.

## Technical Support

Website: [duconasia.com](http://duconasia.com)

Mail: [info@duconasia.com](mailto:info@duconasia.com)

The given coverage figures are theoretical; actual consumption depends on the floor condition, wastage, surface profile and finish.

The recommended total thickness depends on service requirements and conditions. Consult CIKO technical department.

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