HEGGEL® Flex 551

Durable Aesthetic Polyurethane Coating

You Build, We Protect!

Description:

HEGGEL Flex 551 is a two-component polyurethane coating designed for durable protection and aesthetic finishing of concrete and cement-based surfaces. The product forms a resistant coating layer with good mechanical performance, abrasion resistance, and chemical resistance. Its balanced formulation provides good film-build and filling properties, supporting uniform application and reliable surface protection under normal climatic exposure conditions.

Characteristics:

- Easy application by roller or spray equipment
- High abrasion resistance
- Stable colour retention
- Reliable chemical and mechanical resistance
- Good filling properties
- VOC ≤ 460 g/L

Application Areas:

HEGGEL Flex 551 is suitable for use on concrete and cement-based substrates where a durable, abrasion-resistant and aesthetically finished coating is required. It is recommended for walls, floors and structural concrete elements exposed to normal climatic conditions and may be used as part of concrete floor coating systems.

Application Data:

Finish	Eggshell gloss **Note:** The final gloss level is influenced by substrate condition and applied film thickness and may differ from the stated value.
Colour	Standard colours, e.g. RAL, NCS **Note:** Some colours may require a suitable primer shade to achieve optimum opacity. Please contact HEGGEL.
Mixing Ratio	Base : Activator = 4 : 1 (Parts by volume)
Standard Dry Film Thickness (DFT)	50 - 100 µm, depending on application process
Theoretical Consumption	~ 0.1 L/m^2 @ 50 µm DFT
Practical Consumption	Depends on substrate porosity, roughness and application losses
Pot Life @ 20 °C	5 hrs
Drying Time (Dust free) @ 20 °C	20 min
Drying Time (Manageable) @ 20 °C	4 hrs
Overcoat Interval @ 20 °C	4 hrs (max. 7 days)

Note 1: All stated values are laboratory-determined guideline values and do not constitute product specifications.
Note 2: Drying times are based on 50 µm DFT and 50 % relative humidity. Higher film thicknesses require longer drying times.

Technical Data:

Title	Standard	Value
Solids Content (Mix)	-	~ 50 vol.%
Density (Mix) @ 20 °C	-	~ 1.30 kg/L
Temperature Resistance	-	Dry heat: Up to 120 °C

Packaging:

20 L cans and 200 L drums
HEGGEL Flex 551 Thinner: 25 L jerry cans and 200 L drums

Storage:

12 months, in sealed original containers under dry and cool conditions between 5 – 40 °C.
Protect from heat and freezing.

1. Surface Preparation

The coating system shall be selected according to the substrate characteristics. The substrate must be clean, dry, free from contaminants such as oil, grease, dust, and other foreign materials, and mechanically sound to ensure durable adhesion and resistance to mechanical and thermal stresses.

Where possible, moisture penetration from below shall be prevented. For concrete floors receiving moisture-impermeable coating systems, the substrate moisture content shall not exceed 3%.

Proper floor preparation is essential to achieve optimal finish performance and long-term durability. It may be carried out using physical, chemical, and/or mechanical methods, depending on the substrate condition, structural integrity, and the type and extent of contamination present. Typical preparation techniques include solvent cleaning, chemical cleaning or etching, grinding, sanding, ultra-high-pressure water jetting, and abrasive blasting.

Concrete Floors: New concrete floors may develop a surface laitance layer that must be removed prior to coating application. Suitable preparation methods include light dust-free blasting, cement-removal treatments, or specialized acid-based cleaning agents. Where monolithic concrete with a dense, hardened surface is present, light surface roughening may be required to improve coating adhesion.

The aforementioned preparation techniques are also applicable to aged, contaminated, or damaged concrete substrates. The selected treatment method will influence the amount of surface material removed and should be chosen accordingly.

Any cracks present in the substrate shall be evaluated to determine their origin, extent, and appropriate remediation method. Corrective measures may include crack injection, expansion joints, or other suitable repair solutions as required.

2. Environmental Conditions

Prior to, during, and after application of the coating, ensure that the substrate temperature is at least 3 °C above the dew point and the maximum relative humidity shall be below 80% during drying and curing. Ensure adequate ventilation during application and drying to reduce solvent vapours and achieve proper curing conditions.

3. Application Tools

Airless spray: Apply using standard airless spray equipment. Thin the material with **HEGGEL Flex 551 Thinner** at 15 vol.%. Operate at a pressure minimum of 120 bar and a nozzle size of minimum 0.013 inch. The achievable dry film thickness is in the range of 50–100 µm.

Airmix: Apply using standard airmix spray equipment. Thin the material with **HEGGEL Flex 551 Thinner** at 15 vol.%. Operate at a pressure minimum of 80 bar and a nozzle size of minimum 0.013 inch. The achievable dry film thickness is in the range of 50–100 µm.

Brush / Roller: Thinning may be carried out using **HEGGEL Flex 551 Brush Thinner** at 0–5 vol.% if required. Typically, a film thickness of 50 µm per coat can be achieved using this procedure.

4. Mixing

Thoroughly mix the base component and activator using a mechanical mixing device. Ensure the temperature of the mixed material is maintained at a minimum of 5 °C during application.

5. Application

The coating is preferably applied by roller, airless spray, or airmix spray equipment.

Apply uniformly to achieve the specified dry film thickness.

Where thinning is required, adjust the amount of thinner according to application equipment, ambient conditions and material temperature.

Note: Clean all equipment immediately after application using **HEGGEL Flex 551 Thinner.**

6. Repairing Defects

Touch-up of damaged or untreated areas shall be carried out on site. Remove grease, oil, and dirt using a suitable cleaning agent, such as **HEGGEL Cleaners**. Roughen the surface by appropriate mechanical means including sanding, high-pressure water jetting, grit blasting or wet sandblasting. Smooth the transition between repaired and intact areas by sanding and scraping.

After sanding, remove all dust using clean, dry, oil-free compressed air. Then repair the area using the complete coating system in accordance with the coating specification. Minor surface damage may be repaired using the top coat only.

Note: Regular cleaning of the surface is recommended. The coating system should be inspected annually for defects, and any damage shall be repaired using the original coating system.

7. Safety Measures

HEGGEL Flex 551 (UN number: 1263) is in accordance with EU Directive 67/548/EEC and applicable hazardous substances regulations.

Ensure adequate ventilation during application and drying to reduce solvent vapours. This is necessary to achieve proper drying conditions and to protect applicators' health. Causes skin and eye irritation and may be harmful if inhaled. In case of eye contact, immediately rinse thoroughly with water and seek medical attention. Do not eat, drink, or smoke while handling this product. Keep away from heat, sparks, and open flames.

The material safety data sheets of the individual components, the safety instructions on the packing (label) as well as the legal requirements for handling hazardous materials must be observed.

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