

Flowdur MD is a **4 - 6 mm** heavy duty flow applied polyurethane floor topping for use on concrete and polymer modified cementitious screeds.

Flowdur MD is designed with the highest order of durability, impact, abrasion and chemical resistance. Its easy to clean, smooth, matt finish makes the product ideal for environments such as the food, beverage, engineering and chemical industries.



**Strong**



**Anti-slip**



**Heat  
Resistant**



## FeRFA Classification

BS 8204 Type 7.

## Colours\*

Please consult Colour Chart.

\* Flowdur MD is not 100% colour fast and may yellow over time. The rate of change will depend on UV light and heat levels and cannot be predicted. This will be more pronounced with lighter colours and blue shades and does not compromise the product's performance or chemical resistance characteristics.

## Appearance

Seamless, smooth matt finish.

## Pack Size

29.64 kg units comprising of: Polyurethane Resin, Hardener and Aggregate components.

## Temperature Resistance

Flowdur MD is resistant to cleaning temperatures up to 60°C when applied at a minimum of 4 mm thickness.

## Suitable Substrates

Concrete and polymer modified cementitious screeds.

**Disclaimer:** FeRFA (The Resin Association) do not consider anhydrite, hemi-hydrate, and calcium sulphate screeds to be suitable for overlayment with resin floor finishes.

## Advantages

- ✓ Flow applied - rapid installation
- ✓ High chemical resistance
- ✓ Non-tainting and non-dusting
- ✓ Seamless
- ✓ High abrasion resistance
- ✓ Easy to clean

## Coverage

7.6 kg/m<sup>2</sup> at 4 mm or 11.4 kg/m<sup>2</sup> at 6 mm. Coverage figures given are theoretical. Practical coverage rates may vary due to wastage factors and the type, condition, profile and porosity of the substrate.

## VIRTUS RESINS

The Shippon, Faenol

Pentrecelyn

Ruthin LL15 2SP

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## Thickness

4 – 6 mm.

## Chemical Resistance

Flowdur MD is resistant to a wide range of commonly used chemicals in the food, dairy and pharmaceutical industries such as concentrated citric acid (fruits), spirit vinegar (50% acetic acid), lactic acid (food and dairy products) and common alcohols (methanol & ethanol). Flowdur HF is also resistant to a wide range of inorganic acids, fuels, hydraulic oils, mineral oils and solvents. Good housekeeping practices should be employed.

Some staining or discolouration may occur with some chemicals, depending on dwell time, temperature, type of chemical and degree of housekeeping employed. This does not affect the product's service integrity or durability.

Please consult our Technical Department for further advice.

## Typical Properties, 28 days at 20 °C\*

BS 8204-6	Type 7
Adhesive strength to concrete (BS EN 1504-2):	> 1.5 Mpa
Shore D Hardness	75
Slip resistance (Pendulum Test Value BS 7976-2):	≥ 60 dry

\* The typical physical properties given above are derived from testing in a controlled laboratory environment. Results derived from testing field-applied samples may vary dependent upon site conditions. The slip resistance figures given above are affected by application techniques and prevailing site conditions. Slip resistance can reduce over time due to poor maintenance, general wear or surface contaminants. Good housekeeping practices should be observed.

## Cure Schedule at 20 °C\*

Working life of full packs*	15 minutes
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\* Usable working life of material following mixing and immediate spreading as per the application instructions.

Cure time to light pedestrian traffic	12 hours
Cure time to light wheeled traffic	24 hours
Cure time to heavy duty traffic	48 hours
Full chemical resistance	7 days

\* These cure times are approximate and given as a guide only. These times can vary due to prevailing site conditions.

## Pack Size

25.85 kg units comprising of: Polyurethane Resin, Hardener and Aggregate components.

## Coverage

7.6 kg/m<sup>2</sup> at 4 mm or 11.4 kg/m<sup>2</sup> at 6 mm. Coverage figures given are theoretical. Practical coverage rates may vary due to wastage factors and the type, condition, profile and porosity of the substrate.

## Application Conditions

Ideal ambient and substrate temperature range is 15 - 25 °C. Localised heating or cooling equipment may be required outside this range to achieve ideal temperature conditions. The aggregate can be stored in a cool area (or warm area in the case of low ambient temperature) in order to control product temperature and working life. The substrate and uncured floor must be kept at least 3 °C above the dew point to reduce the risk of condensation or blooming on the surface, from before priming to at least 48 hours after application.

## Surface Preparation

Inadequate preparation will lead to loss of adhesion and failure. In flow applied systems there is a tendency for the finish to mirror imperfections in the substrate. Grinding, or light vacuum-contained shot-blasting is therefore preferred over planing for these systems. Percussive scabbling or acid etching is not recommended. The substrate should be finished to a surface regularity when tested according to BS 8204-1 of class SR1 otherwise a scratch coat will be required.

Anchorage grooves should be cut to a width and depth of twice the thickness of the floor finish up to a maximum of 10 mm at the edges, bay joints, up-stands, drains, doorways and at regular points across the floor, and all debris removed. Refer to the **Virtus Guide to Surface Preparation** for further information.

## Priming

### (i) Where the concrete substrate has a relative humidity of <75%

Priming should be carried out using **Flowdur Primer** taking particular care to prime but not fill the anchor grooves (see separate data sheet). Spread onto the substrate and roll with a short-haired roller to ensure even coverage until the surface is completely wetted out, taking care to avoid pooling. Apply around the edges of and into anchorage grooves by brush, to allow even spreading and avoid pooling. If, when cured, there are dry patches, a further primer coat is required. Allow to cure for a minimum 12 hours at 20 °C. If the primer has been left to cure for >48 hours then the primer surface should be mechanically abraded and the area re-primed. Failure to do so may result in pin-holing of the surface topping.

### (ii) Where the concrete substrate has a relative humidity of >75%

Flowdur MD can be applied to 7 day old concrete which is visibly dry and having a minimum tensile strength (pull -off) of 1.5 MPa. All of the usual stringent surface preparation techniques should be employed. For concrete bases in contact with the ground, a damp proof membrane should have been incorporated into the slab design, in accordance with the requirements of CP102 (Code of Practice for Protection of Buildings Against Water from the Ground). **Flowdur SL** should be applied as a scratch coat at 1 mm nominal thickness to prime and seal the surface. If pin-holes are evident in the scratch coat indicating that air is rising from the substrate, remedial action should be taken. Allow to cure for a minimum 12 hours at 20 °C. If the scratch coat has been left to cure for >48 hours then the surface should be mechanically abraded and the area re-coated. Failure to do so may result in pin-holing of the surface topping.

# Technical Data

## Mixing

Prior to mixing, the temperature of the three components must be between 15 and 25 °C. Pre-mix the coloured resin component before use. Add the hardener component to the coloured resin component and mix using a low speed electric mixer (300 - 400 rpm) for 1 - 2 minutes until homogeneous. Decant the mixture into a rotary drum mixer and add the aggregate component in stages, mixing for a minimum of 3 minutes until a uniform coloured, lump-free mix is obtained.

## Application

Apply the mixture immediately onto pre-primed areas, level to the required thickness using a steel float then de-aerate using a spiked roller. Spiked rolling should be carried out within three minutes of application in order to avoid interfering with flow and surface finish. Ensure that anchor grooves are fully wetted out with material.

The cured product should be protected from other trades using Kraft paper or similar breathable material. Polythene should not be used. Protect the installed floor from damp, condensation and water for at least 4 days.

## Pot Life

15 minutes @ 20 °C. Mixed material must be used immediately. When mixed, a chemical chain reaction takes place which creates heat and further reduces pot life. High ambient temperatures will reduce pot life.

**Important:** Both liquids are pre-weighed and designed to be mixed together in their entirety. It is essential that the full amounts are mixed together and until homogenous to ensure the product cures correctly and to the desired finish.

## Maintenance

Regular cleaning is essential to enhance and maintain the life expectancy, slip resistance and appearance of the floor. Flowdur MD can be easily cleaned using industry standard cleaning chemicals and techniques. Consult your cleaning chemical and equipment supplier for more information.

## Health and Safety

Refer to product Safety Data Sheet before use.

## Storage

Store off the ground in un-opened packs in a dry store, under cover between 10°C and 30°C out of direct sunlight. Protect from frost.

## EU Directive 2004/42/EC

Complies with category j type SB (< 500 g/l). The VOC content of Flowdur MD is approx. 12 g/l (theoretical).

## Shelf Life

Resin and hardener components - 12 months. Aggregate component - 6 months (if stored in accordance with above recommendations).

## Limitations

Do not proceed with application if atmospheric relative humidity is, or is anticipated to be, >90% or if the surface temperature is <3 °C above the dew point. Application should not commence when the substrate temperature or the ambient temperature is, or is anticipated to be <5 °C during the application or within the curing period. The design strength of concrete surfaces must be a minimum of 25 MPa compressive strength at 28 days.

The manufacture of Flowdur MD is a batch process and despite close manufacturing tolerances, colour variation may occur between batches. Products from different batches should not be used on the same surface or surfaces close together. If mixed batches are unavoidable, it is best practice to use the different batches only in areas where the colour cannot be directly compared. Touching up should only be attempted using product from the same batch using the same application methods. Product should be reserved specially for this purpose. It is recommended that touching up is carried out up to a break in the floor or surface. For further information on this or any other Virtus product, please contact our office.

**Note:** The information contained in this document, and all further technical advice given is based on our present knowledge and experience. However, it implies no liability or legal responsibility on our part. In particular, no warranty or guarantee of product performance in the legal sense is intended or implied as the conditions of use and the competence of any labour involved in the application are beyond our control. Properties listed are for guidance purposes only. We reserve the right to make any changes according to technological progress or further developments.

## Availability

3 - 5 working days. **Country of Manufacture:** United Kingdom.

Virtus Resins, The Shippon, Pentre-Celyn, Ruthin LL15 2SP, England			
<b>CE</b>	13	DOP RV0001	
EN 13813 SR-B2,0-AR0,5-IR20 Synthetic resin screed material for use internally in buildings not subject to reaction to fire regulations			
Reaction to fire	E <sub>fl</sub> <sup>(1)</sup>	Impact resistance	IR20
Release of corrosive Substances	SR	Sound insulation	NPD
Water permeability	NPD	Sound absorption	NPD
Wear resistance	AR0,5	Thermal resistance	NPD
Bond strength	B2,0	Chemical resistance	NPD

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**Safety Red / Yellow\***



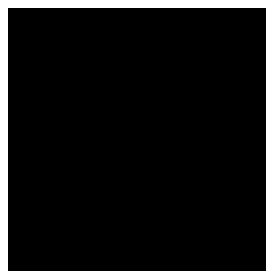
**Buff**



**Light Grey**



**Black**



**Mid Blue**



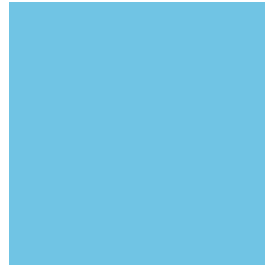
**Sahara**



**Mid Grey**



**Light Blue**



**Yellow**



**Dark Grey**



**Green**



**Tile Red**



**Charcoal**



The colours shown may differ from the original product due to reprographic and technological media variations. The same colour in different products may also vary due to the composition and texture of the final finish.

**Samples:** If colour and final aesthetics are of concern, please contact us to request an actual hard sample of the colour and system required.

\* Surcharge applies

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