



Meat and Fish Processing



Beverages and Alcoholic Drinks



Bakeries and Confectionery



Kitchens and Production Lines



Freezers and Cold Stores



Food Packaging Services

TRANSFORMING food & drink environments



Floorzone Solutions for the Food & Drink Sector

WELCOME TO FLOWCRETE - for the world at your feet

Flowcrete's commitment to exceptional design, technical support and advisory services, from initial enquiry through to installation, is at the heart of our business philosophy. Our global success is driven by our commitment to excellence; excellence in products, excellence in service and excellence in people.

With manufacturing plants across Europe, the Americas, Asia and Africa, a global commercial sales support team and the backing of a major multinational manufacturing group, Flowcrete is well placed as the world's leading performance flooring designer and manufacturer to serve clients in their local markets.

Our fully trained and monitored global network of approved flooring contractors ensures that your project is in safe hands with Flowcrete.



TRANSFORMING food & drink environments

Today's fast-paced food and beverage sector relies heavily on high quality floor and wall coatings to meet industry guidelines for good hygiene and health and safety practise as well as to maximise or even improve production efficiency within the working environment.

Flowcrete has built up over 35 years of experience delivering first class food grade flooring solutions to a host of international food manufacturing clients including Coca Cola, Mars, Kraft Foods, Nestlé, Heineken & Diageo to name just a few.

Now, Flowcrete has developed its **Floorzone** concept to cater for all areas of the diverse agribusiness industry - offering a creative mix of innovative resin floor and wall coating materials, under one single responsibility package, to meet the needs of a wide variety of demanding processing and production environments.

What's more, Flowcrete's **Floorzone** concept has been designed with sustainability in mind so that it not only performs in your environment but is also kind to our planet.



Linzer's Bakery, UK.



DELIVERING -

performance flooring

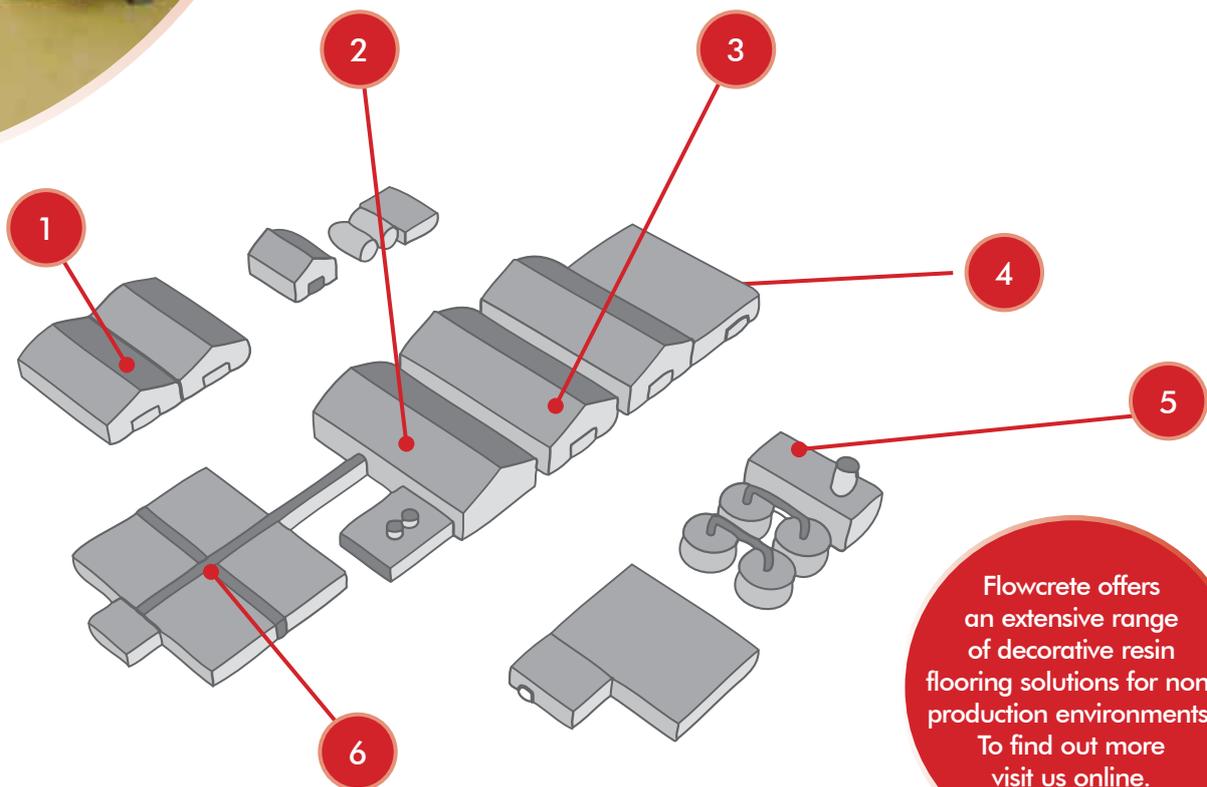
What kind of floor coating? That's the big question faced by food manufacturing clients looking to satisfy a variety of service conditions.

In light industrial areas, warehouses and food packaging environments light to medium tolerance coatings can offer a good balance between performance and value. These systems can provide a protective layer for the concrete substrate as well as all of the inherent antibacterial properties that result from a seamless finish.

In heavy duty processing environments such as slaughtering areas, beverage plants and industrial kitchens - where cleanliness and hygiene are paramount - more durable systems are required. These systems are often thicker, tougher and come with additional protection such as chemical resistant seal coats, antimicrobial additives and an adjustable anti slip profile.



TRANSFORMING food & drink environments



Flowcrete offers an extensive range of decorative resin flooring solutions for non-production environments. To find out more visit us online.

Húspiak, Poland.



1

Meat and Fish Processing

Slaughtering areas and seafood processing plants are heavy duty environments exposed to punishing conditions including aggressive cleaning methods and contaminants including blood, grease and oil. These areas require tough floor coatings with added hygiene protection and a high grade texture to prevent slips, trips and falls when surfaces are wet.

•Flowfresh HF •Flowfast Quartz •Peran STB

Coca Cola, USA.



2

Beverages and Alcoholic Drinks

Beverage production and bottling plants are clean room environments demanding high levels of purity and sanitation. These areas are often exposed to medium/high traffic as well as heavy equipment and machinery and therefore require flexible floor and wall coatings that can take the strain while at the same meet food grade hygiene standards.

•Flowfresh MF •Flowfast Quartz •Flowtex •Peran STB

Lawlers Desserts, USA.



3

Bakeries and Confectionery

Bakeries and confectionery plants are subject to one of the most dangerous and corrosive by-products found in the food industry - sugar. Durable floor coating systems that provide a tough, thick and chemical resistant seal coat layer can help to eliminate the risk of sugar eating into the surface of floors as well as keep other potentially harmful contaminants at bay.

•Flowshield Quartz •Flowfast Quartz •Mondéco TZ •Peran STB

Border Biscuits, UK.



4

Kitchens and Production Lines

Industrial kitchens and assembly lines are responsible for producing hundreds of consumable foodstuff products every day, whether that be fresh meals or pre cooked convenience food. As a result, these areas demand hygienic flooring systems that can destroy any bacteria that poses a threat to human health - such as E-coli, salmonella or staphylococcus - as soon as it lands on the floor.

•Flowshield Quartz •Flowfast Quartz •Flowfresh MF •Peran STB

Civil, Malaysia.



5

Freezers and Cold Stores

Freezers and cold stores require speciality floor coating systems that can be installed at low temperatures and in damp conditions as well as cure in a short turnaround time to reduce client downtime and the associated risk of food spoilage in refurbishment projects. These systems should also be low odour to avoid imparting any unpleasant taste or smell onto foodstuffs.

•Peran WW •Flowcoat SF41 •Flowfast Quartz •Flowfresh HF

Nestlé, UK.



6

Food Packaging Services

Food packaging services need to meet less stringent hygiene requirements, although installing a seamless floor coating will offer a good clean barrier against the build up of dirt, dust and bacteria in cracks and crevices. Flexible membranes that support the impact of heavy mechanical equipment is also a consideration in these areas.

•Flowfast Quartz •Flowcoat SF41 •Flowshield Quartz

The Floorzo

Castello Baruffi, Italy

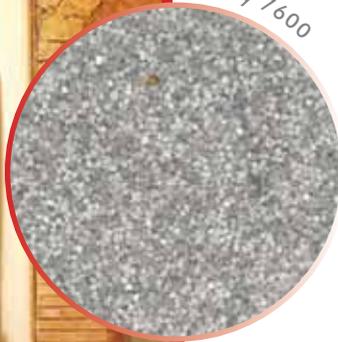
Mustard



Flowfresh HF / RT

Flowfresh HF and RT are both heavy duty, chemical resistant polyurethane resin floor screeds best suited to wet processing zones subject to high volumes of foot and wheeled traffic. With the added benefit of Polygiene®, Flowfresh HF and RT deliver the ultimate in performance hygiene flooring.

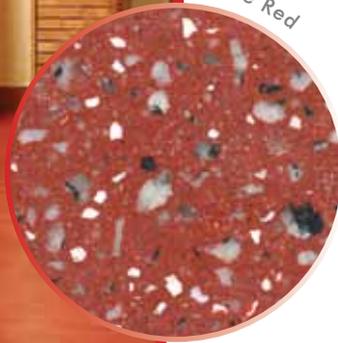
Grey 7600



Flowfast Quartz

Flowfast Quartz is a joint-free and wear resistant quartz flooring system best suited to use in food processing environments where a heavy duty finish is required. Available in a blend of colours, Flowfast has been designed to enable fast-track installation and therefore significantly reduce client downtime.

Tile Red



Mondéco TZ

Mondéco TZ is a seamless, heavy duty polyurethane resin terrazzo, best suited to aggressive areas subject to hot fluid spillage, chemical attack and heavy foot or wheeled traffic. With the added benefit of Polygiene®, Mondéco TZ can offer the ultimate in performance hygiene flooring.

Cream 7700



Peran STB

Peran STB is a hard wearing seamless resin flooring system made up of colourful quartz granules. Available with a gloss or matt finish and an adjustable anti-slip profile, Peran STB delivers excellent scratch, wear and abrasion resistance and is well suited for use in a variety of areas across the food processing facility.

Heavy Duty

One Solution

Food production, Belgium.

Flowfresh MF

Flowfresh MF is a medium duty self smoothing polyurethane resin floor screed, best suited to storage areas and dry processing zones subject to light/medium foot and wheeled traffic. With the added benefit of Polygiene®, Flowfresh MF delivers the ultimate in performance hygiene flooring.

Peran / Flowfresh WW

Peran WW is a water-based, hygienic and coloured gloss sealer for walls and ceilings, best suited to use in food processing areas, kitchens and store rooms. Containing Polygiene®, a silver-based antimicrobial agent, Flowfresh WW offers the additional benefit of antibacterial surface protection.

Flowcoat SF41

Flowcoat SF41 is a hard wearing, solvent free epoxy resin floor coating suited to use in aggressive zones. Available in a bright range of colourful finishes and with an adjustable anti-slip profile, Flowcoat SF41 is an ideal floor coating for store rooms, packaging areas, warehouses and chemical stores.

Flowshield Quartz

Flowshield Quartz is a seamless and self smoothing epoxy floor coating that delivers a colourful and decorative speckled finish. Both easy to clean and maintain, Flowshield Quartz is a dust free and environmentally friendly flooring system that offers good all round resistance in dry processing areas.

Medium Duty

Dark Green



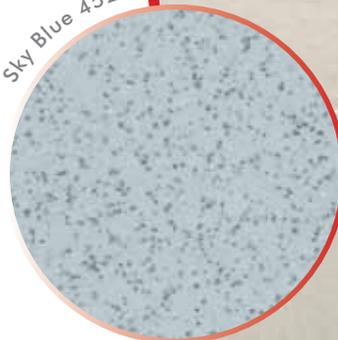
Magnolia



Safety Yellow

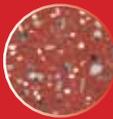
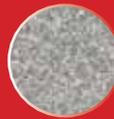
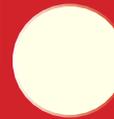


Sky Blue 452



PRODUCT - technical information

The figures provided in the table below are typical properties of our specialist flooring systems achieved in controlled laboratory tests that were conducted at 20°C and at 50% relative humidity. For full system technical data, please contact your local Flowcrete office or alternatively visit us online.

Flooring System:	Flowfresh HF / RT	Mondéco TZ	Flowfresh MF	Peran STB	Flowfast Quartz	Flowshield Quartz	Flowcoat SF41	Peran WW
System Thickness	6-9mm	7mm	2-6mm	2-5mm	4mm	2mm	0.35mm	0.15mm
Impact Resistance (ISO 6272)	1kg > 1.8m 2kg > 1.5m	-	-	-				
Abrasion Resistance (BS 8204-2)	Class AR2	Class AR2	Class AR2	Class AR2	Class AR1	Class AR2	Class AR2	Class AR3
Temperature Resistance	Up to 120°C	Up to 120°C	Up to 70°C	Up to 50°C	Up to 70°C	Up to 50°C	Up to 70°C	Up to 70°C
Permeability (Nil-Karsten Test)	Impermeable	Impermeable	Impermeable	Impermeable	Impermeable	Impermeable	Impermeable	Impermeable
Bond Strength (Primed Concrete)	>1.5 N/mm ²	>1.5 N/mm ²	>1.5 N/mm ²					
Compressive Strength (BS 6319)	>50 N/mm ²	>55 N/mm ²	>50 N/mm ²	>40 N/mm ²	60 N/mm ²	55 N/mm ²	>80 N/mm ²	-
Flexural Strength (BS 6319)	20 N/mm ²	>20 N/mm ²	20 N/mm ²	15 N/mm ²	20 N/mm ²	23 N/mm ²	60 N/mm ²	-
Tensile Strength (BS 6319)	10 N/mm ²	>8 N/mm ²	12 N/mm ²	10 N/mm ²	15 N/mm ²	13 N/mm ²	15 N/mm ²	-
FeRFA Type (BS 8204-6)	8	8	5 (2mm) 7 (4-6mm)	6	6	5	3	1
Slip Resistance* (BS 7976-2)	Dry >40	-	-					
Speed of Cure** (per layer)	Traffic: 48hr Chem: 7days	Traffic: 48hr Chem: 7days	Traffic: 48hr Chem: 7days	Traffic: 48hr Chem: 7days	Traffic: 2hr Chem: 2hr	Traffic: 48hr Chem: 7days	Traffic: 48hr Chem: 7days	Traffic: 8hr Chem: 7days
Fire Resistance (BS 476: Part 7)	Class 2 (Indicative)	Class 2 (Indicative)	Class 2 (Indicative)	Class C _s S 1 (Indicative)	Class 2 (Indicative)	Class 2 (Indicative)	Class 1 (Indicative)	Class 1 (Indicative)
Product Sample:								
	Mustard	Tile Red	Dark Green	Cream 7700	Grey 7600	Sky Blue 452	Safety Yellow	Magnolia

*The slipperiness of flooring materials can change significantly due to the installation process, after short periods of use, due to inappropriate maintenance or longer-term wear. To meet slip resistance value requirements for wet conditions, textured systems are recommended. Please contact a Technical Advisor at your local Flowcrete office for further details and specifications.

**Figures shown at 20°C. For speed of cure at 10°C and 30°C, please contact your local Flowcrete office.

SPECIALIST - flooring features

There are a number of factors affecting the performance of food and drink manufacturing facilities, which left untouched, can have a negative impact on the bottom line. Flowcrete floors offer the following characteristics - helping to improve productivity from the ground upwards:

Hygiene

Hygiene and sanitation is one of the most pressing issues facing environments that process and package foodstuffs. Flowcrete manufactures seamless floor and wall coatings that eliminate the cracks and crevices prone to harbouring dirt and dust as well as polyurethane coatings containing a natural silver-based antimicrobial additive that destroys bacteria on the surface of the floor.

- Flowfresh MF
- Mondéco TZ



Slip Resistance

Slip resistant floor coatings go a considerable way to reducing the slips, trips and falls that can occur in wet processing environments. Flowcrete offers a number of positively textured resin coating systems that can often be adjusted to suit slip grade requirements and can be laid to falls to ensure any water or liquid spillages can flow to drain.

- Flowfresh HF / RT
- Flowfast Quartz



Temperature Resistance

The climate found in food processing environments can vary from intense heat to extreme cold. Flowcrete's food grade floor coatings have been specially formulated for use in cold stores and freezers as well as searing kitchen and catering environments, and offer sufficient durability and thickness to withstand demanding hot water cleaning processes.

- Flowfresh HF / RT
- Mondéco TZ



Chemical Resistance

Flooring in the food industry is subject to a wide range of corrosive and potentially degrading solvents, acids and chemicals in both its manufacturing and cleaning processes. Flowcrete flooring materials offer excellent resistance and durability against a wide spectrum of substances commonly associated with the food manufacturing industry.

- Flowshield Quartz
- Peran STB



Fast Track Installation

The downtime involved in both new build or refurbishment works can have an impact on the bottom line for food manufacturers. Flowcrete floors have been designed to accommodate fast track installation and can often be applied overnight and/or onto green concrete. In addition, our specialist MMA flooring range can deliver cure times of just two hours to keep downtime to a minimum.

- Flowfast Quartz
- Flowfast Terrosso



Antistatic

Aggressive solvents used in rigorous food manufacturing clean down processes need to be stored securely away from any electrostatic charge that could result in ignition or even explosion. Antistatic floor coating systems from Flowcrete can help to expel any undesirable electrostatic charge from the locality of such environments as well as offer suitable corrosion protection on the surface of the floor.

- Flowfresh ESD MF
- Peran ESD STB



FOCUS ON -

the Floorzone

An expert insight into flooring for the food industry...

Food manufacturing environments are exposed to a wide variety of corrosive by-products and contaminants including fats, hot oils, blood, sugar solutions and natural food acids - all of which can penetrate the clean zone, resulting in uncontrolled bacterial growth.

Due to the nature of foodstuff products and services, the international food and drink industry is under close scrutiny when it comes to the health and sanitation of its processing facilities and production plants.

Choosing fit for purpose, quality fixtures and fittings is key to complying with rigorous hygiene standards - particularly when it comes to floors and walls - both of which can act as a vital line of defence in the fight against bacteria and germs.

Flowcrete offers a variety of speciality resin-based coating systems, including epoxies, polyurethanes, acrylics and methyl methacrylates (MMAs), which can be applied to provide a protective barrier against unruly contaminants.

With the **Floorzone** package, food manufacturing clients can select from a wide-range of systems all tailored to deliver the durability and performance characteristics required to meet a whole range of service, application and aesthetic conditions.



ENVIRONMENTAL - protection



The Flowcrete Group is committed to developing our operations in a sustainable manner and has a holistic approach to producing environmentally friendly flooring materials and using our planet's resources responsibly. Flowcrete resins are formulated and produced under the strict environmental standards of **ISO 14001** and significant point enhancements can be obtained under the **LEED®** (U.S. Green Building Council) programme by utilising Flowcrete products. Our Floorzone concept has been designed with sustainability in mind and offers a number of key environmental benefits.



To find out more, visit:

www.flowcrete.com/our-environment

case studies

KP Nuts, UK.



Over 500m² of Flowcrete's specialist resin flooring products have been installed at KP Nuts' UK manufacturing facility. The KP Nuts brand, which is owned by the United Biscuits group, forms a large part of KP Snacks - a leading British provider of nuts, crisps, chips and other savoury snack products.

Flowcrete's hygienic polyurethane resin flooring system, Flowfresh SR, was chosen as the final finish for refurbishment works at the site. Delivering a seamless antimicrobial finish, Flowfresh removes the cracks and joints associated with tiles and other traditional flooring products, preventing the build up of dust, dirt and bacteria.

Work at the site also included the application of Flowcrete's damp-proof membrane, prior to the installation of the Flowfresh.

Heineken, South Africa.



Over 25,000m² of specialist flooring systems has been installed at the Heineken Brewery at Hennopsriver in South Africa, marking the first time for resin floor screeds to be specified for any Heineken facility worldwide.

For the Boiler House, Utilities Area and Workshop, Flowcrete's self-levelling Flowshield SL was installed at 3mm. In the Fermentation Room, which houses a bank of 500,000 litre tanks of fermenting brew, Flowcrete's antimicrobial Flowfresh MF was installed at 4mm.

The joint-free surface prevents build-up of dirt while the abrasion and chemical resistant properties of both systems provide a hard wearing, long lasting floor finish able to withstand the heavy duty operational environment. Plinths and columns in all areas were coated with Flowtex HT.

F&N Dairies, Thailand.



Thai based international drinks production company F&N Dairies Limited required flooring finishes that would stand up to the harsh conditions of the processing environment. The new best in class facility has a total production capacity of 3.5 million cans per day and was built in a record 12 months.

For the production areas, Flowfresh MF and Flowfresh RT were selected for their ability to provide a seamless, easy to clean, slip resistant surface. The heavy duty formulations offer superior chemical resistance able to withstand the high degree of acidity in the production process, while the antimicrobial ingredient provides total protection against a range of bacterial organisms including E-Coli and Salmonella Typhi. Flowfresh RT, with its superior thermal distortion properties, was used in the cold storage areas. A total of 8,000m² of flooring was installed at this flagship plant.



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*Partner

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