

Prevention of and Protection against Static Discharge MasterTop and Ucrete Flooring Solutions

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Introduction: Potential Differences and Risks

Static electricity can be more than a minor discomfort. In today's increasingly technological environment, an ordinary static shock received walking across a carpet could cause particularly serious damage and accidents. Depending on the source, environment and target, as well as the intensity of the discharge, electrostatic discharge can negatively influence health, safety, productivity and quality. In this brochure we present our conductive flooring systems from Master Builders Solutions. These systems form part of the solution to protect users, products, goods, devices and equipment against the effects of uncontrolled static discharge.

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The key benefits at a glance:

- Conforms to international standards
- Fast and easy to install
- Attractive
- Clean, hygienic and safe
- Chemicaly resistant
- Wear-resistant
- Low life-cycle cost
- Temperature/Thermal shock resistance
- Hygienic, against bacterial growth



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The Basics of Static Electricity and Electrostatic Discharge

Static electricity is formed by:

- Dissimilar materials coming into contact and moving relative to one another, for example footfall, friction, flows of air, powders, liquids, etc.
- Triboelectricity caused by friction
- Separation of dissimilar materials when people walk, jump, get out of a chair, etc.
- Induction on coming closer to a charged object.
 Physical contact is not needed

An electrostatic discharge contains energy. This energy can affect the source of the discharge, the target that it arcs to and the environment in between.

- Source: this is the body with higher potential where the charge is accumulated and from where it flows
- Target: the body of lower potential that it hits
- Environment: the medium or atmosphere through which it arcs

In Explosive Areas and/or atmospheres (ATEX Regulations), the concern is the effect on the environments – unless the source and target are explosives.



For ESD Protected Areas (EPAs), the concern is the damage done to the source and the effects on the target. Body voltage must be controlled.



Our conductive flooring systems can be specified for use in both of these areas.



Undesirable static electricity can:

- Damage electronic components
- Cause dust explosions
- Cause solvent explosion and the ignition of flammable liquids
- Lead to the unwanted accumulation of dust
- Loss of quality and production time in several industries, i.e. web and sheet processing due to static attraction
- Cause discomfort and accidents

Source Target

Protection in ESD and EX areas



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Therefore, the consequences of static discharge could:

- Negatively affect the health and safety of people such as workers and end users
- Decrease the durability of the devices and the quality of the produced goods
- Negatively impact productivity.

Additional costs caused by static electricity can vary from cents to millions of euros, not to mention the human risks and legal consequences in case of an accident.





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Prevention and Protection with MasterTop and Ucrete Flooring Systems

Our conductive flooring and coating systems are part of the solution to protect people, products, goods, devices and equipment against the effects of uncontrolled static discharge.

Master Builders Solutions offers a wide flooring portfolio to cover the specific user requirements in different sectors. Every flooring system features a specific combination of properties in addition to their electrical behavior. These include:

- Electrical behaviour
- Chemical resistance and crack bridging properties
- Mechanical resistance impact, scratch and wear resistance,
- Slip resistance
- Aesthetics range of colours, gloss level and texture
- Temperature resistance
- Hygienic surface against bacterial growth



The choice of flooring system can help to control static electricity one of two ways:

- Avoiding accumulation on the floor
- Allowing dissipation through the floor



Avoid accumulation

Protection









ESD Protected Areas (EPAs) and Clean Rooms

Damage to electronic components

Materials are susceptible to becoming electrically charged and charged objects have electrostatic fields. The discharge of this electrostatic energy can damage devices.

The discharge could cause a failure in a diode, a transistor, a microchip, integrated circuitry, etc., damaging the device immediately or prematurely.

An electronic component could be the source or the target of an electrostatic discharge (ESD). Electrostatic fields can also induct an ESD in an electronic component.

The sensitivity of electronic devices to ESDs depends on the type of components they contain. As the trend is towards size reduction, susceptibility to ESD damage is increasing continuously.

An electrostatic discharge can occur not only during the production process, but also during delivery, maintenance, service operations, etc.

An ESD Protected Area (EPA) is designed to fulfil specific criteria, such as very low body voltage generation when people walk on the floor, enabling ESD-sensitive devices to be used safely. Therefore, ESD floors are a very important part of the holistic design of an EPA.

Unwanted accumulation of dust

A clean room is a facility designed to keep the level of particulates, such as dust, organisms or suspended particles, under a certain threshold. The cleanliness level of a clean room is defined by the maximum number of particles per cubic metre.

Clean rooms are used as part of the manufacturing process, for example in research and production areas for drugs and microprocessors.

In these clean room environments, the floor design plays a very important role. A seamless, wear-resistant, dustproof surface which is easy to clean, disinfect and maintain is usually demanded in addition to its ESD performance.

Depending on the type of industry or application, ESD floors are requested to avoid static discharge and static cling. Otherwise, static discharge and dust accumulation could become a problem.

Fields of application

- ESD protected areas
- Clean rooms
- Operating rooms

Typical sectors

- Electronic industry
- Pharmaceutical industry
- Health & care

Main functions of the floor coating

- Protect electronic components
- Prevent static electricity from accumulating on the surface and allow it to dissipate through the floor
- Avoid generation of dust particles
- Avoid the accumulation of dust particles





Recommended systems (please see whole table on p. 22/23):



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Provide a suitable resistant surface for the industrial activity

General requirements

- High durability
- Medium to high chemical resistance
- Medium to high resistance to impacts, scratches and wear
- Easy to clean
- Low maintenance costs

Specific requirements

- Attractive appearance
- Light colours

Electrical behaviour

IEC 61340-5-1

Explosive and ATEX Zones

Dust explosion

When materials are finely divided, they are more reactive. For example, the smaller the wood pieces are, the easier it is to start a fire. If the pieces are too small (sawdust), there is a risk of dust exploding under certain conditions; if the right concentration of dust is suspended and confined in an oxidant medium (typically air) and there is an ignition source.

It is not only materials which burn, such as coal or wood, that can cause a dust explosion: many other materials, such as aluminum powder or even organic materials (sugar, coffee, flour, etc.) can be dispersed into a dangerous mixture suspended in the air.

Solvent explosion

If there is an ignitable mixture (i.e. solvent vapour in the

air), static electricity can become a hazard if a static discharge causes a spark with enough energy to ignite the mixture.

Flammable and Explosive Materials

As the previous cases, a spark caused by static discharge can be the source of ignition of flammable or explosive materials. In these areas failure to correctly control and remove sources of ignition, including static charge, can result in the most catastrophic damage.

Static charge is produced during the operating conditions. If the charge is not dissipated or preventing from forming, the discharge can produce a spark. Antistatic floors (AS) are essential prevention and

protection tools for facilities where these risks must be considered.

Fields of application

- Explosive areas
- ATEX zones

Typical sectors

- Chemical industry
- Food and Beverage Industry
- Printing Industry
- Mining and metallurgy
- Military industry
- Explosives production and handling

Main functions of the floor coating

- Protect people, goods, devices and installations against explosions
- Reduce the risk of sparks due to non-conductive surfaces
- Provide chemical and mechanical protection
- Protect the environment against spillages

General requirements

High to very high chemical resistance



Recommended systems (please see whole table on p. 22/23):





- High to very high resistance against impacts, scratches and wear-resistance
- High performance
- Low maintenance costs

Specific requirements

- Crack-bridging properties
- Antislip resistance

Electrical behaviour

EN1081, <1x10⁶Ohms

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Health and Comfort in Buildings

Static discharge can provoke micro-shocks which affect the users of a building. These light discharges are very annoying, but do not negatively affect people's health, except in certain circumstances:

- Prolonged exposure to micro-shocks can generate stress
- People with pacemakers
- Involuntary reflex movements with unpredictable consequences

At the same time, the modern lifestyle is becoming more and more dependent on electrical and electronical devices, such as Wi-Fi, mobile phones, computers, wiring, chargers, home appliances, etc., to which the human body is exposed on a daily basis.

Some publications suggest that there may be a link between static electricity and some diseases, such as ribbed thighs, also known as Lipoatrophia semicircularis.

Other publications suggest that exposure to static electricity may be one of the possible causes of sick building syndrome (SBS). In all cases, medical evidence needs to be found.

Fields of application

- Offices
- Technical and computer rooms

Typical sectors

Commercial and public buildings

Main functions of the floor coating

- Protect people
- Prevent static electricity from accumulating on the surface and allow it to dissipate through the floor
- Provide a suitable resistant surface for the industrial and commercial activity

Recommended systems (please see whole table on p. 22/23):

MasterTop 1273 EPA MasterTop 1324 ESD







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General requirements

- High durability
- Easy to clean
- Low maintenance costs

Specific requirements

Attractive appearance

Electrical behaviour

IEC 61340-5-1

Automotive Industry and Suppliers

The automotive industry and its suppliers are currently facing fundamental transformation to adapt to modern times.

On the one hand, climate change and increasing social demands mean that electric and hybrid vehicles are having to achieve fossil fuel-free transport which reduces greenhouse emissions. Additionally, digitalization is leading to autonomous driving, extreme comfort and efficiency.

For these reasons, electric and electronic components are becoming more and more important in a vehicle.

On the other hand, robotization and automatic guided vehicles (AGV) during assembly is also a reality.

In this environment, static discharge protection is becoming essential during vehicle production and assembly.

As consequence, the automotive industry and its suppliers also face new challenges in their facilities, which must be adapted to rapidly changing technology and customer expectations, to meet present and future needs

Fields of application

- Production halls
- Assembly halls
- Workshops

Typical sectors

- Automotive industry
- Automotive supply industry
- Aerospace industry (and suppliers)
- Rail industry (and suppliers)

General requirements

- Highly customizable systems to adapt to specific requirements and customer needs
- Protects electronic components
- Easy to clean



Recommended systems (please see whole table on p. 22/23): MasterTop 1273 SR AS MasterTop 1273 SR ESD MasterTop 1273 AS MasterTop 1273 AS R MasterTop 1273 ESD MasterTop 1273 EPA MasterTop 1273 EPA E MasterTop 1273 EPA R Ucrete MF40 AS

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- Low maintenance costs
- Attractive appearance

Specific requirements

- Improved slip resistance
- Fast installation
- High durability

Electrical behaviour

- IEC 61340-5-1
- EN1081, <1x10⁶ Ohms









Chemical Industry

The chemical industry poses several challenges for flooring. For example, if leakage or spillage of often hazardous chemicals occurs, it must be contained until it can be effectively and safely dealt with. The floor needs to be dense and impervious with the required chemical resistance, easy to clean and with appropriate levels of slip resistance.

Wherever combustible powders, solvents or gases are handled, there is a risk of explosions. Our antistatic floors provide not only the required chemical and solvent resistance but ensure that static electricity is kept under control, avoiding serious accidents.

Furthermore, our floors are guick and easy to install, with a wide range of slip-resistant profiles and a broad spectrum of chemical resistance; to acids, alkalis, fats, oils, solvents and salt solutions. Our conductive flooring systems are ideal wherever chemical resistance is imperative.

Especially for wet and dry process areas we offer smooth and textures systems. Vertical grades are ideally suited to bunds, plinths, channels and drains ensuring that chemicals are contained and do not escape into the environment.

Fields of application

- Bulk chemical manufacture
- Electroplating
- Tanning
- Household chemicals
- Toiletries
- Biodiesel production
- Bunded stores
- Tanker loading bays

Typical sectors

- Chemical industry
- Mining
- Heavy metal refining
- Military industry
- Textile manufacture



Recommended systems (please see whole table on p. 22/23):





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Main functions of the floor coating

- Protect people
- Ensure product quality
- Consequent control of static electricity
- Provide a dense and impervious surface with chemical resistance

General requirements

- Very high chemical resistance
- very high durability
- easy to clean

Specific requirements

textured surfaces for wet environments

Electrical behavior

EN1081, <1x10⁶ Ohms

Pharmaceutical Industry

The pharmaceutical industry needs resistant floors offering a specific combination of functions. Above all, they must help ensure product quality and employee safety.

Areas in which medicines are produced and packed have to be sterile and dust free, which requires excellent cleanability of the floor.

The cleaning qualities of our floors score highly: being dense and impervious enables them to be cleaned to a standard comparable to stainless steel, making them an extremely hygienic solution for the pharmaceutical industry and the related fields of application.

But floors can only maintain their cleanability and hygienic properties if they resist the solvents, chemicals and the heavy abrasion from hard plastic and steel-wheeled traffic that are widely encountered. Especially our Ucrete systems are renowned for their chemical resistance and durability, providing long-lived solutions, ensuring hygiene standards and minimizing maintenance for years to come.

Many pharmaceutical production areas involve work with extremely fine organic powders, creating the potential for dust explosions, while volatile organic compounds are also used widely, in processing and for cleaning and sanitizing. Consequently, the control of static electricity is a critical safety factor which is readily addressed using one of our antistatic flooring solutions.

From tanker reception areas and bunded stores, through processing rooms to tableting halls, Master Builders Solutions provides the appropriate floors to meet the diverse needs of the pharmaceutical industry.

Fields of application

- Primary and secondary manufacture
- Wash bays
- Clean rooms
- Aseptic areas
- Grinding and blending
- Pilot plants and tableting facilities

Typical sectors

- Pharmaceutical industry
- Medicine manufacture

Main functions of the floor coating

- Protect people
- Ensure product quality
- Consequent control of static electricity
- Provide a suitable resistant and durable surface for industrial activity

General requirements

- Excellent cleanability
- Hygienic surface
- Chemical resistance



Recommended systems (please see whole table on p. 22/23):





Impact resistance

Durability

Specific requirements

- Attractive appearance
- **Electrical behavior**
- IEC 61340-5-1
- EN1081, <1x10⁶ Ohms

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MasterTop and Ucrete Flooring Solutions – Prevention and Protection

The power of adaptability:

Our industrial and decorative systems can be adapted to the individual requirements of each specific project, combining trust in the well-known features of our systems with the freedom to customize solutions to meet customers' needs.

In addition to the electrical properties the following aspects must be cosidered:

- mechanical loads from traffic or machine usage
- chemical loads from industrial processes or cleaning and maintenance
- thermal loads
- cleanability

Different flooring lines and series are available, offering a diverse and unique approach to easily meet the needs of any specific project:

MasterTop 1273 series: Universal, multipurpose epoxy flooring systems which provide the utmost in adaptability and versatility. Versions: Standard, AS, ESD, EPA, R, SR, E and various combinations.

MasterTop 1289 series: Highly chemically resistant,

crack-bridging epoxy flooring systems. Versions: Standard, AS, R and AS R.

MasterTop 1324 series: Universal, multipurpose polyurethane flooring systems. Versions: Standard, AS, ESD, A, R and various combinations.

Ucrete: Heavy-duty polyurethane-based flooring systems which provide high thermal shock and chemical resistance, as well as hygienic properties.

Types of conductive version:

- Standard: Non-conductive
- AS: Anti-static
- ESD: Electrostatic discharge
- EPA: ESD Protected Area

Types of finish:

- Standard: Smooth
- SR: Structured
- R: Anti-slip

Types of version:

- Standard: Nominal thickness
- E: Reduced thickness



Key benefits:

- ✓ Adaptable
- ✓ Efficient
- ✓ Attractive
- ✓ Clean, hygienic and safe
- ✓ Chemically resistant
- ✓ Wear-resistant
- ✓ Low life-cycle cost
- ✓ Temperature resistant



Cleaning and Maintenance

Choose the right cleaning agent: MasterTop CLN 50/70

MasterTop CLN 50 and 70 have been especially developed for the maintenance of our flooring systems. Both cleaners are highly cleaning and degreasing agents, which contain no soap, polymers or wax. Both MasterTop cleaners are highly concentrated and must be diluted with water before use. For MasterTop ESD and EPA systems, the use of specific ESD cleaners like TASKI Jontec Destat and TASKI Jontec ESD is also advised. For all Ucrete systems MasterTop CLN 50 is recommended.

Recommended use of MasterTop CLN 50/70

Product	MasterTo	p CLN 50	MasterTop CLN 70				
Flotuct	Regular	Periodic	Regular	Periodic			
MasterTop 1273 series		\checkmark	\checkmark	\checkmark			
MasterTop 1289 series		\checkmark	\checkmark	\checkmark			
MasterTop 1324 series		\checkmark	\checkmark	\checkmark			
Ucrete systems	\checkmark	\checkmark	\checkmark	\checkmark			

 \checkmark = Suitable and recommended

Cleaning frequency and effort

Cleaning frequency	Regular: one to three timesPeriodic: once a week
Dilution proportions*	 Diluted 1:20 with water for 1 Diluted 1:10 diluted with was soiling pure or 1:1 diluted with water marks
Cleaning tools	Regular: microfibre mops, sPeriodic: discs or brushes
Cleaning procedure	 Regular: manual or mechai Periodic: mechanical high- cleaning

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For a correct cleaning and maintenance procedure, please note the following recommendations.

- Pre-treatment: always vacuum or wipe the floor to remove dust and/or any loose particles before applying MasterTop CLN 50/70.
- Dilution proportions: MasterTop CLN 50 and 70 must be diluted with water, carefully following the proportions indicated. Once diluted, apply the cleaning agent to the floor and leave for 2 minutes before removing. In case of stubborn marks, apply the pure product directly on the marks, clean with a microfiber cloth or mop and remove. In case of accidental spillage of the pure product on the floor, do not leave it for long. Always remove it in order to prevent permanent spots and color fading.
- Cleaning tools: use microfibre cloth pads for manual regular cleaning. Use mechanical tools such as scrubber driers for deep cleaning in highly demanding areas. Always wear proper protections, as the product might stain your clothes.
- Cleaning frequency and effort: in living environments, manual cleaning is suitable for regular cleaning, alternating with the use of mechanical tools such as scrubber driers for periodic cleaning. The vigorousness of the cleaning operations should be increased in the case of floors with a rough finish which are subjected to high dirt pick-up and a high flow of traffic.



a week

normal soiling ter for heavy

er for stubborn

soft pads

nical pressure

Main System Properties

Master Top

System	MasterTop 1273 AS	MasterTop 1273 AS R	MasterTop 1273 ESD	MasterTop 1273 EPA	MasterTop 1273 EPA E	MasterTop 1273 EPA R	MasterTop 1273 SR AS	MasterTop 1273 SR ESD	MasterTop 1289 AS	MasterTop 1289 AS R	MasterTop 1324 AS	MasterTop 1324 AS R	MasterTop 1324 ESD	
Traffic resistance			-	-	0		0	0					0	
Chemical resistance	\odot	\odot	0	\odot	\odot	0	0	0			0	0	0	
Crack-bridging properties	\odot	0	0	O	0	0	0	0	0	\odot		0		
Increased slip resistance	0		0	0	0		٢	٢	0		0		0	
Ease of cleaning		0				0	٥	٥		0		0		
Colour range							0	0					٥	
Temperature resistance	0	0	0	0	0	0	0	0	0	0	0	0	0	

Ucrete

System Property	Ucrete DP10AS	Ucrete DP20AS	Ucrete CS10AS	Ucrete CS20AS	Ucrete MF40AS	Ucrete TZAS	Ucrete UD100AS	Ucrete HPQAS
Traffic resistance								
Chemical resistance								
Increased slip resistance	0		0		0	0		0
Ease of cleaning	0	٢	0	٥	٥		0	0
Colour range	0	0	\bigcirc	0	0	0	0	0
Temperature resistance	0	0	0	0	0			\odot

O = Limited



Master Top

System Standards	MasterTop 1273 AS	MasterTop 1273 AS R	MasterTop 1273 ESD	MasterTop 1273 EPA	MasterTop 1273 EPA E	MasterTop 1273 EPA R	MasterTop 1273 SR AS	MasterTop 1273 SR ESD	MasterTop 1289 AS	MasterTop 1289 AS R	MasterTop 1324 AS	MasterTop 1324 AS R	MasterTop 1324 ESD
R_g < 10 ⁶ Ω resistance to ground according to EN1081	-	-	-					-		-	-	-	
R _g < 10 ⁶ Ω resistance to ground according to EN 61340-4-1													
R _g < 10 ⁹ Ω resistance to ground according to EN 61340-4-1			■*										
EN 61340-4-5 Person/footwear/ flooring system $R_g < 10^9 \Omega$			*	■*									
EN 61340-4-5 Body voltage generation (Walking test) < 100V			*										
DIN VDE 0100-410 and 610 Erection of low-voltage installations: protection against electric shock > 5 $x \ 10^4 \Omega \le 500V > 10^5 \Omega > 500V$				•									

Ucrete

System Standards	Ucrete DP10AS	Ucrete DP20AS	Ucrete CS10AS	Ucrete CS20AS	Ucrete MF40AS	Ucrete MFAS-C	Ucrete TZAS	Ucrete UD100AS	Ucrete HPQAS
EN 1081, 34 1382 (Rg < 10 ⁶ Ω)	*	*	*	*	*	*	*	*	*
EN 61340-4-1 (Rg < 10 ⁶ Ω)	*	*	*	*	*	*	*	*	*
EN 61340-5-1 (Rg < 10 ⁹ Ω)	*	*	*	*	*	*	*	*	*
EN 61340-4-5 (voltage to body < 100 V)	*	*	*	*	*	*	*	*	*
CLC/TR 60079-32-1 (Rg < 5*10 ⁴ Ω)	0	0	0	0	0	*	0	0	0

Suitable O = Does not fulfil the requirements of the standard



Building the Future with the Digital Services of Master Builders Solutions: Fast, Easy and Smart

Online Planning Tool



The Online Planning tool is designed especially for specifiers, planners and engineers. It helps you define the solution you are looking for by industry and building type, and download a customized specification report including BIM objects, certificates and full product-related documentation in only 3 steps. Start now!

online-planning.master-builders-solutions.com



Solunaut

Solunaut is a tool designed for all professionals in the construction industry. It provides an overview of our solutions by application in the food and beverage, chemical and waste-water industry, including TDS and the possibility of contacting us directly if there are any questions.

solunaut.master-builders-solutions.com

BIM



With more than 200 BIM objects, and soon more than 400 Revit models, the Master Builders Solutions BIM portfolio is the largest in the construction chemicals industry. It covers thirteen construction industry segments, such as Waterproofing Systems, Performance Flooring, Concrete Repair or Protective Coatings, as well as Expansion Control Systems and Wall Systems.

bimobject.com/en-us/product?brand=mbcc-group



Master Builders Solutions Social Media

Stay connected with us on our social media to obtain the latest information on our product solutions, information, videos and events!









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Master Builders Solutions

The Master Builders Solutions brand brings all of our expertise together to create chemical solutions for new construction, maintenance, repair and renovation of structures. Master Builders Solutions is built on the experience gained from more than a century in the construction industry. The know-how and experience of a global community of construction experts form the core of Master Builders Solutions.

We combine the right elements from our portfolio to solve your specific construction challenges. We collaborate across areas of expertise and regions and draw on the experience gained from countless construction projects worldwide. We leverage global technologies, as well as our in-depth knowledge of local building needs, to develop innovations that help make you more successful and drive sustainable construction.

The comprehensive portfolio under the Master Builders Solutions brand encompasses concrete admixtures, cement additives, solutions for underground construction, waterproofing solutions, sealants, concrete repair & protection solutions, performance grouts, performance flooring solutions and solutions for on- and offshore wind energy.

Our comprehensive portfolio

- Concrete admixtures
- Cement additives
- Chemical solutions for underground construction
- Waterproofing solutions
- Sealants
- Concrete repair and protection solutions
- Performance grouts
- Wind turbine grouts
- Performance flooring solutions

Please do not hesitate to contact us for more specific information!





Master Builders Solutions for the Construction Industry

MasterAir

Complete solutions for air entrained concrete

MasterBrace Solutions for concrete strengthening

MasterCast

Solutions for the manufactured concrete product industry

MasterCem Solutions for cement manufacture

MasterEase Low viscosity for high performance concrete

MasterEmaco Solutions for concrete repair

MasterFinish Solutions for formwork treatment and surface improvement MasterFlow Solutions for precision grouting

MasterFiber Comprehensive solutions for fiber reinforced concrete

MasterGlenium Solutions for high performance concrete

MasterInject Solutions for concrete injection

MasterKure Solutions for concrete curing

MasterLife Solutions for enhanced durability

MasterMatrix Advanced rheology control for concrete MasterPel Solutions for hydrophobization,

anti-efflorescence and surface protection

MasterPolyheed Solutions for mid-range concrete

MasterPozzolith Solutions for water-reduced concrete

MasterProtect Solutions for concrete protection

MasterRheobuild Solutions for high strength concrete

MasterRoc Solutions for underground construction

MasterSeal Solutions for waterproofing and sealing MasterSet Solutions for set control

MasterSphere Solutions for guaranteed freeze-thaw resistance

MasterSuna Solutions for sand and gravel in concrete

MasterSure Solutions for extraordinary workability retention

MasterTop Solutions for industrial and commercial floors

Master X-Seed Advanced accelerator solutions for concrete

Ucrete Flooring solutions for harsh environments

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QUANTIFIED SUSTAINABLE BENEFITS ADVANCED CHEMISTRY BY MASTER BUILDERS SOLUTIONS

Let the numbers do the talking: We have portrayed some of our most eco-efficient product solutions for concrete and precast production, construction, civil engineering, and flooring.

sustainability.master-builders-solutions.com



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