MC-Bauchemie Material Overview

As you are aware, BCS are the Australian distributors for MC-Bauchemie, the largest privately owned chemical company in Germany.
MC has over 2000 materials in their extensive range, and for our client's benefit we have reduced these to the most commonly used for injection, concrete repair and protection of concrete. The materials are separated in application areas and an overview of possible applications is provided. Please refer to the TDS for application, potential primer and finishing advice.

Injection materials

MC-Injekt GL-95TX			
Areas of use:	2 component, polymer reinforced acrylic gel. Low viscosity, soft elastic, highly flexible, waterproof injectable membrane. Used for joints, cracks and cavities in concrete and rock. Large scale sealing of rock fissures, contact areas between waterproof membranes (specifically HDPE), failed gaskets, XP to mainline interface, diaphragm walls or other areas of water ingress.		
Features	Benefits		Advantages
• Ultra-low viscosity • Fast, adjustable reaction time • Highly flexible • Polymer modified	• Suitable for most ground media • Allows for movement of the structure • High strength against water pressure • Excellent adhesion to construction materials including PVC and itself		• Reduced application and cleaning time • Improved QA & QC • Instant measure of success • Trouble-free reinjection due to merging of the material • Cleans up with water
Type	Acrylic	Potable water	Yes

MC-Injekt 2033			
Areas of use:	2 component, fast reacting, 4000% foaming, water reactive polyurethane with catalyst for variable setting times. Stops high water flows and pressurised water. Filling of voids and temporary stopping of water.		
Features	Benefits		Advantages
• Low viscosity • Fast reaction time • 40 times volume expansion • Stable in volume, no shrinkage • Open cell	• Only small amounts of materials required due to expansion • Stable filler for voids • Stops pressurized water		• Cost savings due to volume expansion • Long term void filler • Suitable for most water pressures
Type	Polyurethane	Potable water	No

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MC-Injekt 2300 NV			
Areas of use:	2 component, low viscosity polyurethane for flexible sealing and filling of cracks and joints under dry, damp conditions. Permanent water seal for use with MC-Injekt 2033. Suitable for use with injection hoses		
Features	Benefits	Advantages	
• Very low viscosity • High flexibility • Minimal expansion in contact with water • Closed cell	• Suitable for use with injection hoses • Long-term water sealing • Adjustable reaction time • Injectable in cracks from 0.1mm	• Easy to use due to extended working time	
Type	Polyurethane	Potable water	Yes

MC-Injekt 2300 top			
Areas of use:	2 component, low viscosity polyurethane for flexible sealing and filling of cracks and joints under dry, damp conditions. Permanent water seal for use with MC-Injekt 2033. Suitable for use with injection hoses		
Features	Benefits	Advantages	
• Very low viscosity • High flexibility • 1:1 mixing ratio • Minimal expansion in contact with water • Closed cell	• Suitable for use with injection hoses • Long-term water sealing • Injectable with 2 component pump • Injectable in cracks from 0.1mm • True viscosity	• Minimal wastage • Reduced application and cleaning time • Improved QA & QC • Labour savings	
Type	Polyurethane	Potable water	No

MC-Injekt 2133 flex			
Areas of use:	True single component, non-shrink, water-reactive, elastomer resin for sealing and filling of cracks and voids. Closed cell foam for large scale permanent water sealing of contact areas between waterproof membranes and structures.		
Features	Benefits	Advantages	
• 1 component • Low viscosity • 10 times expansion in volume • Closed cell • Non toxic	• Continuous foaming for 2 minutes • Injection in cracks from 0.3mm • Minimal water amount required to initiate foaming • Long-term water sealing	• Low material usage • Ease of use due to single component • Instant measure of success	
Type	Polyurethane	Potable water	No

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MC-Injekt 2700			
Areas of use:	2 component, high strength polyurethane for filling and sealing of joints, voids, cracks and cavities under dry, water-bearing and high-pressure water bearing conditions. Water sealing and stabilising of sheet piles, diaphragm walls, rock and other concrete structures		
Features	Benefits	Advantages	
• Low viscosity • Fast reaction time • >75 MPa compressive strength • Closed cell	• Limited foaming to provide strength • Long-term water sealing • Injectable with 2 component pump	• Instant measure of success • Reduced application and cleaning time • Improved QA & QC	
Type	Polyurethane	Potable water	No

MC-DUR 1264 FFM			
Areas of use:	Structural crack injection in wet and dry conditions. Force transmitting repair of tunnel segments, precast elements and any other cracked concrete.		
Features	Benefits	Advantages	
• Low viscosity • Moisture compatible • High quality raw materials	• Hardening under dynamic conditions • Suitable for use with injection hoses	• Reduction in surface tension allows for excellent penetration	
Type	Epoxy	Potable water	No

MC-Injekt 1264 TF			
Areas of use:	Structural crack injection in dry conditions. Force transmitting repair of tunnel segments, precast elements and any other cracked concrete.		
Features	Benefits	Advantages	
• Ultra-low viscosity • High quality raw materials	• Hardening under dynamic conditions • Suitable for use with injection hoses	• Filling of cracks from 0.1mm	
Type	Epoxy	Potable water	No

Centricrete HCS			
Areas of use:	Structural cement suspension for crack injection, joints and voids in wet and dry conditions; Used in tunnel segments, bridges and concrete slabs		
Features	Benefits	Advantages	
• Low viscosity • Long application time • 1 component	• Injectable in cracks from 0.8mm • Shrinkage compensated • Suitable for use with injection hoses	• Reinstates alkalinity • Ease of use due to one component material • Injectable under wet conditions	
Type	Cementitious	Potable water	Yes, if coated

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Centricrete UF			
Areas of use:	Structural cement suspension for crack injection, joints and voids in wet and dry conditions; Used in tunnel segments, bridges and concrete slabs		
Features	Benefits		Advantages
• Ultra-low viscosity • Long application time • High sulfate resistance	• Injectable in cracks from 0.25mm • Shrinkage compensated • Suitable for use with injection hoses		• Reinstates alkalinity • Injectable in small cracks • Injectable under wet conditions
Type	Cementitious	Potable water	Yes, if coated

MC-Fastpack System			
Used for:	Injection Materials in cartridge system		
Available Materials	Benefits		Advantages
• MC-Injekt 2300 top • MC-Injekt 2700 • MC-Injekt 1264 compact • MC Sewer Injekt • MC-Fastpack PU solid (surface sealant)	• True viscosity for each material • Minimal clean up • No mixing errors • No ongoing equipment maintenance cost		• Time and cost savings for smaller projects • No pump required only Fastpack Powertool and compressed air
Type	Polyurethane and Epoxy	Potable water certification	Depending on material

Joints

DAMP	MC-Injekt GL 95 TX
WET	MC-Injekt GL 95 TX, Fermadur

Cracks

	Durability Repair	Structural Repair
DRY	MC-Injekt 2300 top	MC-Injekt 1264 compact MC-DUR 1264 KF Centricrete HCS, Centricrete UF
DAMP No flowing water	MC-Injekt 2033 + MC-Injekt 2300 top MC-Injekt 2133 flex MC-Injekt GL 95 TX (behind structure)	MC-Injekt 1264 compact MC-Injekt 2700 Centricrete HCS, Centricrete UF
WET	MC-Injekt 2033 + MC-Injekt 2300 top MC-Injekt 2133 flex MC-Injekt GL 95 TX (behind structure)	MC-Injekt 2700

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Concrete Repair

MC-DUR 3500			
Areas of use:	Rapid curing acrylate-based repair mortar for partial repair with high load capacity, industrial floors, driveways, bridge bearings and tunnel segments repair		
Features	Benefits		Advantages
• Stuffing and pouring viscosity • Fast setting • High early strength • Excellent adhesion	• Setting time of 11 minutes • Resistant after 45 minutes • 60 MPa in 2 hours • Concrete grey colour		• Fast, barely noticeable repairs • Short turnaround times for carparks, airports, stations, warehouse floors etc.
Type	Acrylate	Potable water	No

Nafufill KM 250 and Nafufill KM 250M			
Areas of use:	Single component polymer modified, structural concrete replacement mortar with 2-hour fire rating, suitable for overhead repairs and chloride environments.		
Features	Benefits		Advantages
• Polymer modified • 1 component • Hand or spray application	• 2 hour fire rating at 1350°C to protect reinforcement (Nafufill KM 250 version only) • Statically calculable • Suitable for overhead repairs		• Fire protection • Concrete replacement mortar • Compatible primer also acts as corrosion protection
Type	Cementitious	Potable water	Yes, if coated

MC FIX ST and MC FIX ST 5			
Areas of use:	Fast setting mortar for sealing of water ingress, plugging of packer holes, surface sealing when injecting and fast setting plug for leaks		
Features	Benefits		Advantages
• Waterproof • 1 component • 60 sec or 5 min setting time • Swelling during setting process	• Permanent water seal • Fast setting time • expansion and excellent plugging ability		• Instant measure of success • Easy application
Type	Cementitious	Potable water	No

Coating – Potable water

MC-RIM PW 201			
Areas of use:	Cementitious based protective coatings for potable water structures		
Features	Benefits		Advantages
• Very low pore volume 3% • Open to water vapour diffusion • 1 component • Hand or spray application	• Resistant against hard and soft water • High abrasion resistance • Minimal shrinkage • No water permeability		• Like type material • Highly durable due to low void content • Interior and exterior application
Type	Cementitious	Potable water	Yes

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Coating – Manhole Rehabilitation, Waste Water

Ombran MHP			
Areas of use:	Cementitious based protective coatings for Sewer access shafts; Suitable for Manholes and Pump Stations		
Features	Benefits		Advantages
• Very low pore volume 3% • Open to water vapour diffusion • 1 component • Hand or spray application • Fast setting time 3 hours	• Resistant against pH 3.5 - 14 • High abrasion resistance • Minimal shrinkage • No water permeability • Application by automated spinning unit • High sulphate resistance (class XWW3 DIN 19573)		• Like type material • Highly durable due to low void content • Interior and exterior application • Reduced man hours in confined space
Type	Cementitious	Potable water	No

Ombran MHP SP 3000			
Areas of use:	Cementitious based protective coatings for Sewer access shafts applied by spinning unit or spray; Suitable for Manholes and Pump Stations		
Features	Benefits		Advantages
• Very low pore volume 3% • Open to water vapour diffusion • 1 component • Fast setting time 3 hours	• Resistant against pH 3.5 - 14 • High abrasion resistance • Minimal shrinkage • No water permeability • Highest class sulphate resistance (Class XWW4 DIN 19573)		• Like type material • Highly durable due to low void content • Interior and exterior application • Reduced man hours in confined space
Type	Cementitious	Potable water	No

Coatings – Surface Protection

MC-Color			
Areas of use:	Concrete protection for exterior, non-trafficable areas (civil structures) in transparent, pigmented or flexible grades		
Features	Benefits		Advantages
• Available in three performance levels to suit every project • Open to water vapour diffusion • Dirt and water repelling • Hand or spray application • Reduces carbonation	• Transparent, Pigmented and Crack bridging versions available • Weather and UV resistant • Thin application • 75 to 677 metres diffusion resistance against CO2 • Graffiti protection available • Easy to clean		• Easy and fast to apply • Various colours available • Based on decades of development • Accredited coatings to various German and European standards
Type	Water based	Potable water	No

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Plugging mortars for water seepage

Ombran W			
Areas of use:	Plugging and sealing of water ingress around pipe penetrations and joints in concrete, masonry and natural stone		
Features		Benefits	Advantages
• Waterproof • 1 component • 60 sec setting time • Swelling during setting process • 40 MPa compressive strength		• Permanent water seal • Fast setting time • expansion and excellent plugging ability • structural characteristics	• Instant measure of success • Easy application
Type	Cementitious	Potable water	No

Ombran IW			
Areas of use:	Instant surface sealing of water seepage for concrete and masonry; Used in any underground structures like car parks, shafts, pits etc.		
Features		Benefits	Advantages
• Waterproof • 1 component • 30 sec setting time • Swelling during setting process		• Permanent water seal • Fast setting time • expansion during setting and excellent surface adhesion • application as dry powder	• No mixing required • Easy application
Type	Cementitious	Potable water	No

Specialist Grouts

Emcekrete HP, HP80, HP100			
Areas of use:	High performance cementitious grout for concrete repairs, concrete anchors, bridge bearings, machine foundations (wind turbines) and filling of cavities		
Features		Benefits	Advantages
• 2-stage shrinkage compensated • Chloride free • Adjustable consistency • 0% bleed at 3 hours		• High ultimate strength (65, 80, 100MPa) • Rapid strength development • Can be blended with aggregate for deep pours	• Excellent flowability • Easy to mix • Long pot life
Type	Cementitious	Potable water	No

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Concrete Additive – Enhancing Concrete Quality

Centrilit NC			
Areas of use:	Concrete Additive to enhance acid and chemical resistance and reduce pore volume of concrete, used for precast units, high strength and high-performance concrete,		
Features	Benefits		Advantages
• Bright coloured (does not change colour of concrete) • Optimised concrete surface quality for fair faced concrete • Excellent environmental compatibility • Particle size smaller than cement	• Improved homogeneity • Increased density and strength • Improved abrasion resistance • application as dry powder • Increased Chemical resistance (including chlorides)		• High uniformity and quality (synthetically manufactured) • Available as slurry or powder
Type	Cementitious	Potable water	No

Please contact us if you are interested in areas for project-based material requirements or any questions you may have from reading this document.

Looking forward to working with you in the future.

Annalena Baier
Engineering and Technical Manager

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