

according to Regulation (EC) No 1907/2006 (REACH) and according to Commission Regulation (EU) No 453/2010

	WORTAR BEIOSA	•	5	crete and reinforced		
concrete structures and surfaces						
		27. August 2015 18. May 2016	Revision no. Version	1 2		
SECTI	UN 1: Identification of	the substance/mixtu	Ire and of the company/une Mortar BETOSAN (dertaking for repair and overlay of concrete an		
1.1.	Product identifier			te structures and surfaces		
	substance / mixture		mixture			
	Number		see annex A			
1.2.	Other names of the mixt		see annex A or mixture and uses advised	dagainst		
1.∠.				and overlay of concrete and reinforce		
	Intended use of the mix	ture	concrete structure			
	Not recommended use c	of the mixture	The product shoul referred in Sectior	d not be used in ways other then the 1.		
1.3.	Details of the supplier	r of the safety data sh	neet			
	Manufacturer					
	Name or trade nar Place of business of		BETOSAN s.r.o. Na Dolinách 28, P	$r_{2}h_{2} = 4 + 147.00$		
		Ji residency	Czech Republic			
	Telephone		241 431 212			
	Fax		241 431 212			
	E-mail		praha@betosan.cz	Z		
	Web address		www.betosan.cz			
	Emergency teleph		241 431 212, 8,0	00-16,00		
	Competent person res	sponsible for the safe	=			
	Name		BETOSAN s.r.o.	_		
1.4.	E-mail Emergency telephone	number	praha@betosan.cz	Z		
1.4.		n Centre, Na Bojišti 1, F		293 or 224 915 402, Information or		
SECTI	ON 2: Hazards identific	ation				
2.1.	Classification of the s					
			with Regulation (EC) No 1	272/2008		
	A mixture is classified as		0 ,			
	Skin Irrit. 2, H315 Skin Sens. 1A, H317					
	Eye Dam 1, H318					
	STOT SE 3, H335					
	T I I I I I I I I I I I I I I I I I I I					
	A mixture is classified as	•	to Directive 1999/45/EC			
		s duriger ous.				
	Irritant: Xi; R 38, R 41 sensitising: R 43					
	Full text of all classificat	ions, H-phrases and R-p	ohrases is given in the section	16.		
	The most serious advo Unknown	erse physicochemical	effects			
	The most serious adve		n health and the environme n reaction. Causes serious eye			



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2.2.	Label elements			
	Warning symbol			
	\wedge	\land		
	Signal word			
	Danger			
	Hazardous substa	nces		
	Cement, portland, cl	hemicals		
	Hazard statements			
	H315	Causes skin irritation.		
	H317	May cause an allergic skin		
	H318	Causes serious eye damag		
	H335	May cause respiratory irrita	ation.	
	Instructions for sa			
	P101	If medical advice is needed	d, have product container or I	abel at hand.
	P102	Keep out of reach of childr	en.	
	P261	Avoid breathing dust		
	P302+P352	IF ON SKIN: Wash with ple	enty of soap and water.	
	P305+P351+P338	IF IN EYES: Rinse cautious present and easy to do. Co		utes. Remove contact lenses, if
	P310		I CENTER or doctor/physician	
	P333+P313	=	curs: Get medical advice/atte	
	P501	Dispose of contents/contai		
			ner to local regulations.	
	Additional informa			
		Do not use in paint sprayir	ng equipment.	
2.3.	Other hazards			
	Cement contained in over time.	n the product may contain a	reducing agent. The effective	veness of the reducing agent is reduce

3.2. Mixtures

Chemical characterization

Mixture of substances specified below and additives.

Mixture contains these hazardous substances and substances with the highest permissible concentration in the working environment

Identification numbers	Name of the substance	Content in % weight	5	Classification according to Regulation (EC) No 1272/2008	Note
CAS: 65997-15-1 ES: 266-043-4	Cement, portland, chemicals		R 43	Skin Irrit. 2, H315 Skin Sens. 1B, H317 Eye Dam 1, H318 STOT SE 3, H335	1, 2

Notes

1 Substances for which there are exposure limits Community for working environment.

2 The use of the substance is restricted by Annex XVII of REACH Regulation.

The full text of all standard phrases and guidelines is specified in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

not available





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Commission Regulation (EU) No 453/2010 Mortar BETOSAN for repair and overlay of concrete and reinforced concrete structures and surfaces Creation date 27. August 2015 Revision no. 1 Date of revision 18. May 2016 Version 2 Inhalation Terminate the exposure immediately: move the affected person to fresh air. Protect the person against growing cold

Terminate the exposure immediately; move the affected person to fresh air. Protect the person against growing cold. Provide medical treatment if irritation, dyspnoea or other symptoms persist.

Skin contact

Remove contaminated clothes. Wash the affected area with plenty of water, lukewarm if possible. Soap, soap solution or shampoo should be used if there is no skin injury. Provide medical treatment if skin irritation persists. Note: If the mixture sticks to the skin and cannot be removed with water and cleaning products or edible oil, do not use force and leave for specialized treatment.

Eye contact

Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person. Rinsing should continue at least for 10 minutes. Provide medical treatment, specialized if possible. Note: If the product sticks to the skin of the eyelids and cannot be removed using water, do not use force and leave for specialized treatment.

Ingestion

DO NOT INDUCE VOMITING - even the inducing of vomiting by itself may cause complications (inhalation of the substance in respiratory pathways and lungs, for example, in detergents and other substances that produce foam or causing mechanical damage to the mucous membrane of the pharynx). If possible, give a small amount of activated carbon (1-2 crushed tablets). For persons with no symptoms, call the Toxicological Information Centre to decide about the need of medical treatment; provide information about the substances or composition of the product from the original packaging or the Safety Data Sheet of the substance or mixture. Provide medical treatment if the person has any health problems.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation Possible irritation of respiratory pathways, cough, headache. Skin contact Painful reddening, irritation. Eye contact Serious eye damage Ingestion Irritation, nausea. Indication of any immediate medical attention and special

4.3. Indication of any immediate medical attention and special treatment needed Symptomatic treatment.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media All types of extinguishing media are suitable. Prior to using the product liaise with local fire authority for confirmation of best and most current form of extinguishing media for the product. Unsuitable extinguishing media not available Special hazards arising from the substance or mixture

- 5.2. Special hazards arising from the substance or mixtu No hazardous combustion products5.3. Advice for firefighters
- No need for specialist protective equipment for firefighters

SECTION 6: Accidental release measures

- 6.1. Personal precautions, protective equipment and emergency procedures
- The mixture is nonflammable. Provide sufficient ventilation. Use gloves in case of prolonged contact. Follow the instructions in Sections 7 and 8.
- 6.2. Environmental precautions Prevent contamination of the soil and entering surface or ground water. Do not allow to enter drains.





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6.3. Methods and material for containment and cleaning up

At all times avoid inhalation of product and contact with skin and eyes. Contain the spillage. Keep the material dry if possible. Wear full personal protective equipment when cleaning up, whatever method is chosen. When the product is in a dry state, avoid airborne dust generation when cleaning up. Avoid dry sweeping. Examples of clean up methods when in dry state are:

(A) Using a vacuum cleaner (Industrial portable units, equipped with high efficiency particulate filters (HEPA filter) or equivalent technique)

(B) Wipe up the dust by mopping, wet brushing or water sprays or hoses (fine mist to avoid the dust becoming airborne) and remove slurry. Ensure drains are covered.

If the product has become wet, clean up and place in watertight container. Allow material to dry and solidify before disposal.

Check current regulations before disposing of spillage, whether in dry state or not.

6.4. Reference to other sections 7, 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid all types of dust generation. (Particularly the creation of respirable dust)

At all times avoid inhalation of product and contact with skin and eyes.

Carrying the product may cause back injuries, strains, sprains or the like. Use correct handling techniques to avoid injury. Use handling equipment and controls if necessary to avoid injury. If in doubt, contact your local health and safety body for further guidance on manual handling.

Always wear sufficient and full protective equipment and suitable clothing when handling the product. Ensure have adequate ventilation / ventilation equipment available when handling the product.

Do not eat, drink or smoke in work areas; wash hands after use; remove contaminated clothing and protective equipment before entering eating areas.

7.2. Conditions for safe storage, including any incompatibilities Store in a well-ventilated place. Store this product in a draught free environment, clear of the ground, avoiding

Store in a well-ventilated place. Store this product in a draught free environment, clear of the ground, avoiding humid conditions.

Material of package

C (81), Paper and tape/plastic (Combined materials and packaging)



7.3. Specific end use(s) not available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

The mixture contains substances for which the following concentration limits in the workplace are determined.

European Union	nion
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		Limit values				
Name of the substance (component)	CAS number	8 ha	ours	Short	-term	Note
		mg/m ³	ppm	mg/m ³	ppm	
cement	65997-15-1	10				



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	Co	mmission Regulation (EU) No 45	53/2010						
		-	of concrete and reinforced						
		ete structures and							
Creat	ion date 27. August 2								
	of revision 18. May 201		2						
	Other information of limit values DNEL: not listed, was not carried ou								
	PNEC: not listed, was not carried ou								
3.2.	Exposure controls								
	local suction or efficient general ven	tilation. If exposure limits canno . Do not eat, drink and smoke	for good ventilation. This can be achieved only b ot be observed in this mode, suitable protection c e during work. Wash your hands thoroughly wit						
	Eye and face protection	Eye and face protection							
	Protective goggles or face shield (ba	sed on the nature of the work p	performed).						
	Skin protection								
	Wear gloves resistant to damage and alkaline media. Use suitable protective and regenerating hand cream.								
	Respiratory protection Filter mask, possibly self-contained breathing apparatus in poorly ventilated environments.								
	Thermal hazard	sieathing apparatus in poorly ve							
	not available								
	Restriction of the environment e	XDOSUICE							
	Observe usual measures for protecti	•	tion 6.2.						
	ION 9: Physical and chemical prop								
9.1.	Information on basic physical ar								
	Appearance	powder							
	physical state colour	solid at 2	2010						
	Odour	grey odorless							
	Odour threshold		available						
	pH	12,1 (un							
	Melting point/freezing point	•	available						
	Initial boiling point and boiling range		available						
	Flash point		available						
	Evaporation rate		available						
	Flammability (solid, gas)	non-flam	nmable						
	Upper/lower flammability or explosiv	ve limits							
	flammability limits		available						
	explosive limits	data not	available						
	Vapour pressure	data not	available						
	Vapour density	data not	available						
	Relative density	data not	available						
	Solubility(ies)								

	Relative density	data not available
	Solubility(ies)	
	solubility in water	data not available
	solubility in fats	data not available
	Partition coefficient: n-octanol/water	data not available
	Auto-ignition temperature	data not available
	Decomposition temperature	data not available
	Viscosity	data not available
	Explosive properties	not classified as explosive
	Oxidising properties	not classified as an oxidant
9.2.	Other information	
	Density	1,8 g/cm ³ at 25 °C
	auto-ignition temperature	data not available



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Commission Regulation (CO) NO 453/2010							
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	concrete structures and surfaces						
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SECTION 10: Stab	ility and reactivity						
10.1. Reactivity	5						
The mixture	is nonflammable						
10.2. Chemical s	tability						
Under norma	al conditions, the mixture is stable.						
10.3. Possibility	of hazardous reactions						
Under norma	al conditions, the mixture is stable.						
10.4. Conditions	to avoid						
The product	is incompatible with strong acids.						
10.5. Incompatik	ole materials						
Strong acids							
10.6. Hazardous	decomposition products						
Under norma	al use do not arise.						

SECTION 11: Toxicological information

11.1. Information on toxicological effects

No toxicological data is available for the mixture.

Acute toxicity

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Route of exposure	Parameter	Method	Value	Time of exposure	Species	Sex	Determining the value of	Source
oral	LD 50		> 2000 mg/kg		rat (Rattus norvegicus)			
dermal	LD 50		> 2000 mg/kg		rat (Rattus norvegicus)			

Corrosion/skin irritation

When skin is exposed to the product in its dry or wet state, thickening, cracking or fissuring of the skin may occur. Prolonged contact in combination with abrasion can cause severe burns. Portland cement is an irritant to skin. Serious eye damage / eye irritation

Direct contact with product may cause corneal damage by mechanical stress, immediate or delayed irritation or inflammation. Direct contact either in dry or wet form may causeeffects ranging from moderate eye irritation (eg conjunctivitis or blepharitis) to chemical burns or blindness.

Respiratory / skin sensitization

This product contains portland cement which is classified as a skin sensitizer. Contact dermatitis/Sensitising effects – prolonged and repeated skin contact with calcium dihydroxide may cause dermatitis. Some individuals may exhibit eczema upon exposure to wet cementitious products, caused either by the high pH which induces irritant contact dermatitis, or by an immunological reaction to soluble Cr (VI) which elicits allergic contactdermatitis. The response may appear in a variety of forms ranging from a mild rash to severe dermatitis and is a combination of those two mechanisms. An exact diagnosis is often difficult to assess. Germ cells mutagenicity

With the exception of Chromium (VI) (<2 ppm) none of the individual substances in this mixture are classified as mutagenic.

Carcinogenicity

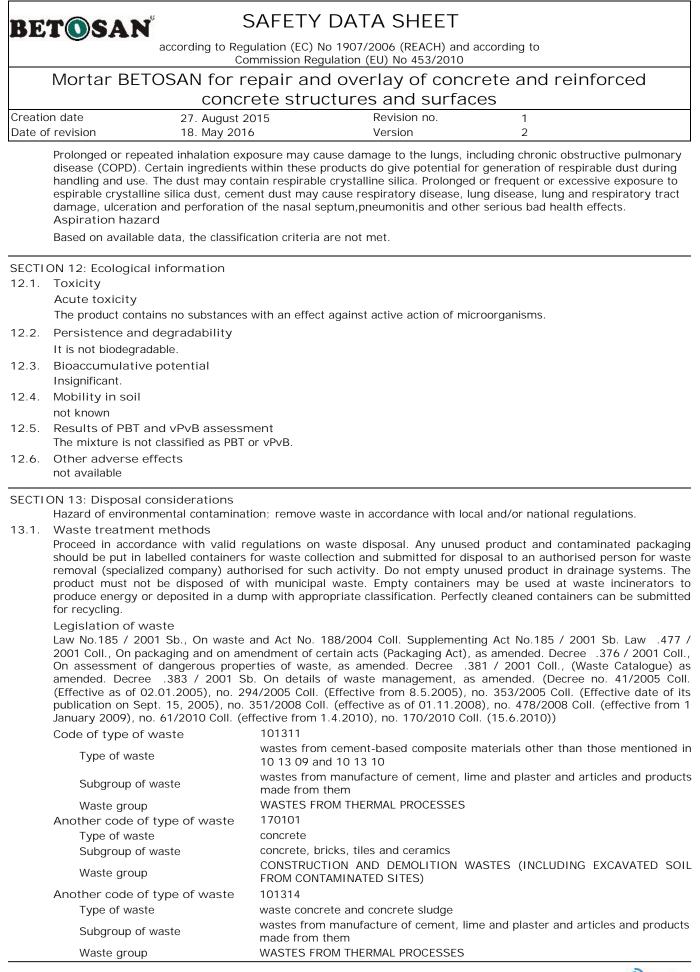
This product contains silica sand and this form of silica is not classified as carcinogenic due to its large particle size. However, prolonged and/or massive exposure to respirable crystalline silica-containing dust may cause silicosis, a nodular pulmonary fibrosis caused by deposition in the lungs of fine respirable particles of crystalline silica. With the exception of Chromium (VI) (<2 ppm) none of the individual substances in this mixture are classified as carcinogenic. Reproductive toxicity

Based on available data, the classification criteria are not met. Toxicity for specific target organ - single exposure

May cause respiratory irritation.

Toxicity for specific target organ - repeated exposure





BE	TOSA	N [°] S	SAFETY DA	FA SHEET		
		according to Regu	ulation (EC) No 1907 mmission Regulation	· · · ·	5	
	Mortar B		•		ncrete and reinf	orced
Creati	on date	27. August 20	ete structure	Revision no.		
	of revision	18. May 2016		Version	2	
	Type of w	o of waste	1 0 0 0	g separately colle G; ABSORBENTS,	cted municipal packaging WIPING CLOTHS, FILTER WISE SPECIFIED	,
SECTI	ON 14: Transp	port information				
14.1.	UN number not available					
14.2.	UN proper sh not available	nipping name				
14.3.	Transport ha not available	azard class(es)				
14.4	Packing grou not available	qı				
14.5.	Environment not available	al hazards				
14.6.		autions for user Sections 4 to 8.				
14.7.		bulk according to An	nnex II of MARPOL	73/78 and the I	BC Code	
					. 111/1994 Coll. hazardou	us item and is

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, as amended.

15.2. Chemical safety assessment not available

16. SECTION 16: Other information

A list of standard ri	sk phrases used in the safety data sheet
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
Guidelines for safe	handeling used in the safety data sheet
P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P261	Avoid breathing dust
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.



SAFETY DATA SHEET

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P333+P313	If skin irritation or rash occurs: Get medical advice/attention.	
P501	Dispose of contents/container to local regulations.	
List of R-phr	rases used in the safety data sheet	
R 38	Irritating to skin.	
R 41	Risk of serious damage to eyes.	
R 43	May cause sensitisation by skin contact.	
The product r	tant information about safety of human health must not be - unless specifically approved by the manufacturer/importer - used for purpond n 1. The user is responsible for adherence to all related health protection regulations.	oses other that
Key to abbre	eviations and acronyms used in the safety data sheet	
ADR	European agreement concerning the international carriage of dangerous goods b	y road
BCF	Bioconcentration Factor	
CAS	Unique Numeric Identifier used in chemistry for chemical substances	
CLP	Classification, Labelling and Packaging	
DNEL	Derived no-effect level	
EC50	Concentration of a substance when it is affected 50% of the population	
EINECS	European Inventory of Existing Commercial Chemical Substances	
Ems	Emergency plan	
ErC50	Environmental Release category	
ES	Identification code for each substance listed in EINECS	
IATA	International Air Transport Association	
IBC	International Code For The Construction And Equipment of Ships Carrying Dange	rous
100	Chemicals	1003
IC50	Concentration causing 50 % blockade	
ICAO	International Civil Aviation Organization	
IMDG	International Maritime Dangerous Goods Transport	
LC50	Lethal concentration of a substance in which it can be expected death of 50% of population	the
LD50	Lethal dose of a substance in which it can be expected death of 50% of the popu	lation
LOAEC	Lowest observed adverse effect concentration	
LOAEL	Lowest observed adverse effect level	
Log Kow	Octanol-water partition coefficient	
MARPOL	International Convention for the Prevention of Pollution From Ships	
MFAG	First Aid Manual	
NOAEC	No observed adverse effect concentration	
NOAEL	No observed adverse effect level	
NOEC	No observed effect concentration	
NOEL	No observed effect level	
NPK PBT	The maximum permissible concentration Persistent ,Bioaccumulative and Toxic	
PEL	Permissible Exposure Limit	
PNEC	Predicted no-effect concentration	
REACH	Registration, Evaluation and Restriction of chemicals (EP and Council Regulation No.1907/2006)	(EC)
RID	Agreement on the transport of dangerous goods by rail	
UN	Four-digit code reflecting the characteristics of substances or mixtures in transpo	ort
UVCB	Substances of unknown or variable composition, complex reaction products or bi materials	ological
VOC	Volatile organic compounds	
vPvB	Very Persistent and very Bioaccumulative	
Eye Dam	Serious eye damage	
Lye Daili	Serious eye damaye	





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Skin Sens	Skin sensitization				
STOT SE	Specific target organ toxici	Specific target organ toxicity - single exposure			
ways of handlin Recommended not available	onnel about the recommended wa g the mixture. I restrictions of use		stive equipment, firs	t aid and prohibited	
REGULATION (E REGULATION (E REGULATION (E REGULATION (E REGULATION (EC)	cout the sources of data used C) No 1907/2006 OF THE EURO C) No 1272/2008 OF THE EUROP EU) No 453/2010, COUNCIL DIF CU) No 286/2011 amending, for No 1272/2008 of the Europea ostances and mixtures.	DPEAN PARLIAMENT AND OF EAN PARLIAMENT AND OF TH RECTIVE 67/548/EEC as am the purposes of its adaptati	E COUNCIL as ane ended and 1999/4 on to technical and	nded, COMMISSION 5/EC, COMMISSION scientific progress,	

The changes (which information has been added, deleted or modified) Modification of the list in Annex A.

Statement

The Safety Data Sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.



Mortar BETOSAN for repair and overlay of concrete and reinforced concrete structures and surfaces

ANNEX A

- number other names
 - 2-3 MONOCRETE PPE
 - 2-4 MONOCRETE ARG
 - 2-5 MONOCRETE PPE TH
 - 2-6 MONOCRETE ARG TH
 - 2-7 DENSOFIX
 - 2-8 DENSOFIX ARG
 - 2-27 DENSOFIX SF
 - 2-37 MONOCRETE BKO TH
 - 2-42 UNISAN SF 2K component A
 - 2-44 UNISAN TH CRETE
 - 2-45 UNISAN S CRETE
 - 2-46 UNISAN M CRETE
 - 2-47 DENSOCRETE 333
 - 3-1 DENSOCRETE PPE
 - 3-2 DENSOCRETE PPE TH
 - 3-5 MONOCRETE MONOMIX
 - 3-6 MONOCRETE MONOMIX TH
 - 3-8 MONOMIX WSC TH
 - 3-9 MONOMIX SCC
 - 4-5 WATERFIX XP
 - 4-6 WATERFIX XP TH
 - 4-7 MONOCRETE MONOMIX XP
 - 4-8 MONOCRETE MONOMIX XP TH
 - 4-9 DENSOFIX XP
 - 4-12 WATERFIX rapid
 - 4-16 MONOCRETE XP rapid
 - 4-17 MONOCRETE XP TH rapid
 - 4-19 SUPERFIX XP
 - 4-20 SUPERFIX XP TH
 - 4-23 WATERFIX XP rapid
 - 4-28 WATERFIN 1K flex
 - 6A-1 DENSOTOP Q, S, EH
 - 6A-2 DENSOTOP M
 - 6A-3 DENSOTOP XP
 - 6A-4 NIVELITH F
 - 6A-5 MONOLITH S
 - 6A-6 MONOLITH EH
 - 6A-7 BETOSAN STS
 - 6A-8 NIVELITH FS
 - 6A-11 NIVELITH FT
 - 6A-13 MONOLITH S rapid

- 8-1 COROLIT
- 8-2 SUPERFIX
- 8-3 SUPERFIX TH
- 8-4 WATERFIX RH
- 8-6 PROFIX super
- 8-7 PROFILL
- 8-8 MONOCRETE rapid
- 8-9 MONOCRETE TH rapid
- 8-11 MONOCRETE MPH TH
- 8-13 PROFILL XP
- 8-14 PROFIX flex
- 8-17 COROFIX
- 8-18 SUPERFIX SMP DP
- 8-19 PROFIX E
- 8-20 BETOSAN SUK
- 8-21 SUPERFIX rapid
- 8-22 SUPERFIX TH rapid
- 8-24 MONOCRETE TW