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YAPI KİMYASALLARI SAN. VE TİC. LTD. ŞTİ.

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BETTOPUR STOP 102

Polyurethane Based, One Component, Water Reactive, CFC and Solvent Free, Deep Injection Resin

MATERIAL DESCRIPTION

BETTOPUR STOP 102 is a one-component, polyurethane-based deep injection (resin) material that reacts with water to form an open-cell foam texture that also acts as a water shut-off and stabilization.

TECHNICAL SPECIFICATIONS

Bettopur Stop 102 ADD)		[%]	2,00	6,00	10,00
Temperature 5°C	Reaction start time	[sn.]	45	20	14
Hardening time		[sn.]	360	110	51
Temperature 15°C	Reaction start time	[sn.]	35	16	13
Hardening time		[sec.]	250	73	45
Temperature 25°C	Reaction start time	[sn.]	20	13	11
Hardening time		[sn.]	200	61	40
Temperature 30°C	Reaction start time	[sn.]	32	15	10
Hardening time		[sn.]	290	99	57
Temperature 35°C	Reaction start time	[sn.]	28	14	10
Hardening time		[sn.]	270	89	50
Temperature 40°C	Reaction start time	[sn.]	23	12	10
Hardening time		[sn.]	210	82	49
Temperature 45°C	Reaction start time	[sn.]	18	11	8
Hardening time		[sn.]	180	75	47
Temperature 50°C	Reaction start time	[sn.]	15	10	7
Hardening time		[sn.]	135	68	45

The reaction was triggered by the addition of 10% tap water to the freshly prepared mixture. Depending on the character of the water used, some specific substances i n it may cause different reaction times.

Material Data:

		Bettopur Stop 102	Bettopur Stop 102 ADD	Method of determination
Density at 25°C	kg/m3	1120 ± 20	970 ± 15	DIN 12791
Color		Brown	Yellow	
Flash point	°C	> 100	> 150	DIN 53213
Viscosity at 5°C	mPa*s	710 ± 70	-	ISO 3219
Viscosity at 10°C	mPa*s	475 ± 70	-	ISO 3219
Viscosity at 15°C	mPa*s	315 ± 40	-	ISO 3219
Viscosity at 20°C	mPa*s	225 ± 40	-	ISO 3219
Viscosity at 25°C	mPa*s	170 ± 40	35 ± 10	ISO 3219
Viscosity at 30°C	mPa*s	130 ± 30	-	ISO 3219
Viscosity at 35°C	mPa*s	97 ± 20	-	ISO 3219
Viscosity at 40°C	mPa*s	77 ± 20	-	ISO 3219
Viscosity at 45°C	mPa*s	59 ± 10	-	ISO 3219

Mechanical Data:

Bettopur Stop102	Bettopur Stop102 ADD (injected into quartz sand)			TY
Compression strength	(after 6 weeks)	MPa	12.0	DIN EN ISO 604
Young's modulus	E (after 6 weeks)	MPa	302.9	DIN EN ISO 604

Composition and Features

Components **BETTOPUR STOP 102** resin consists of doped modified isocyanates. **BETTOPUR STOP 102 ADD** is a catalyst mixture designed to adjust the reaction rate according to the situation. After the addition of the catalyst, the resulting mixture has a shelf life of at least 48 hours, provided there is no moisture or direct contact with water.

AREAS OF USE

Viscosity at 50°C	mPa*s	48 ± 10	-	ISO 3219

- Interception of water revenues in conditions of high pressure, flow and velocity (including seawater),
- Binding and consolidation of loose rocks and ensuring water tightness,
- Binding of fine, medium fine-grained sands by creating a mortar effect
- Fastening of rock studs (bolts), self-drilling studs and rope anchors to the ground in sandy environments containing water,
- Deep injection
- Injection applications to cracks, gaps and immobile joints in the ground,
- Injection of insulation into accessible sewer lines and drains,
- It is used for filling large voids with resin mixture + reactive or non-reactive under high water passage and pressure.

ADVANTAGES

- Good adhesion to wet surfaces,
- One-component catalyst addition, can be applied by injection pump,
- Reacts with water to form foam with an open cell texture,
- Use in deep injections and superior stabilization task,
- Economical, solvent-free.

SURFACE PREPARATION

The surface should be cleaned using pressurized water if possible, removing oil, grease, fuel and paraffin waste, as well as mold release agents, cement residues, chips, loose particles and cured membranes. Large holes or gaps can be filled with polyurethane sealant.

APPLICATION METHOD

BETTOPUR STOP 102 ADD must be added to start the reaction in a controlled manner. Before starting the injection pumping, a predetermined amount of **BETTOPUR STOP 102 ADD** is added to the resin **(BETTOPUR STOP 102)**. Here the reactivity of the mixture can be adjusted according to the existing conditions. Both components are thoroughly mixed. The mixture can be stored for at least 48 hours without significant viscosity increase, provided that it is protected from direct contact with moisture or water. However, a crust may form on the free surface of the liquid in contact with air due to moisture in the air. This generally has no effect on the resin underneath. However, it is recommended to scrape off this crust before application and thus prevent possible clogging in the pump.

BETTOPUR STOP 102/BETTOPUR STOP 102 ADD mix single
It is injected and applied like a component resin and hardens by a strong reaction when it comes into contact with water in the environment. If the amount of water in the environment is insufficient to initiate the reaction of the resin mixture, water can be injected into the environment before, during or after the application.

Compared to two-component systems, the **BETTOPUR STOP 102** resin in the injection hose does not freeze. However, it must be ensured that all valves are closed to prevent water ingress into the hose and to prevent hardening reaction. Nevertheless, as a general practice, it is recommended to protect the pump and valves from possible sedimentation and blockages by rinsing with PU solvent cleaner.

CLEANING OF INSTRUMENTS

After application, tools and equipment can be cleaned with cellulosic or polyurethane thinner.

PACKAGING

BETTOPUR STOP	**102BETTOPUR STOP 102 ADD**
19 kg tin1	kg tin

SHELF LIFE

12 months from date of manufacture under appropriate storage conditions.

STORAGE CONDITIONS

It should be stored in its unopened original packaging in a cool and dry environment at temperatures between +10°C and +30°C, protected from frost. For short-term storage, maximum 3 pallets should be stacked on top of each other and shipment should be made on a first-in, first-out basis. For long-term storage, pallets should not be stacked.

Recommendation:
To reach the recommended processing temperature between 15°C and 30°C, we recommend that you keep the product at a minimum temperature of 15°C for at least 12 hours before processing. When heated, localized overheating, for example on the walls of the container, must be avoided.

SECURITY MEASURES

During application, work clothes, protective gloves, goggles and masks should be worn in accordance with the Occupational Health and Safety Rules. Due to the irritating effects of uncured materials, the components should not come into contact with the skin and eyes, in case of contact, wash immediately with plenty of water and soap, and in case of ingestion, consult a doctor immediately. Food and beverage materials should not be brought into the application areas. Keep out of the reach of children.

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