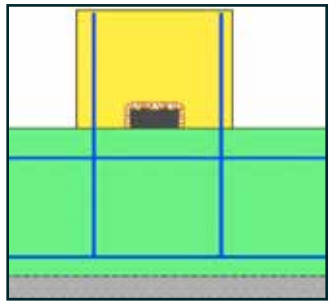
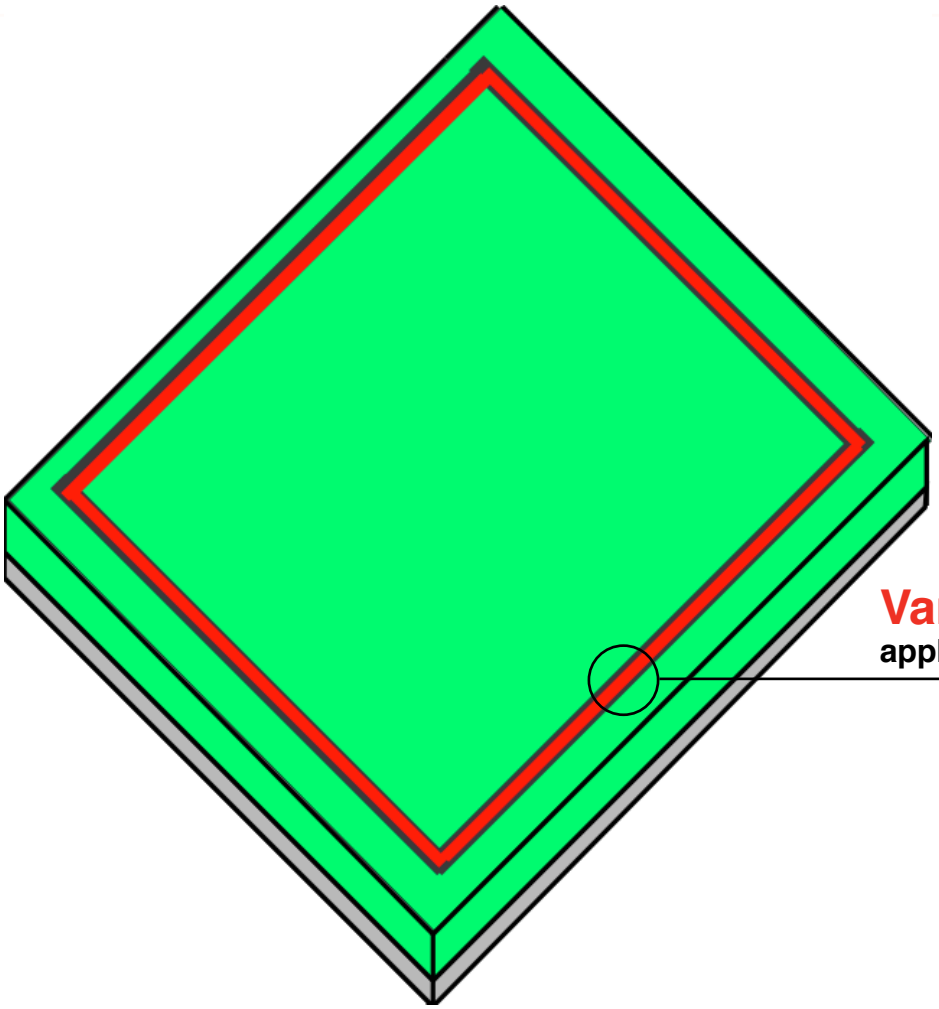
2.1 Existing raft with

BFL-Mastix bands for the waterproofing between raft and walls

Variant 1 with BFL-Mastix bands type R applied by thermal gluing on hard concrete.



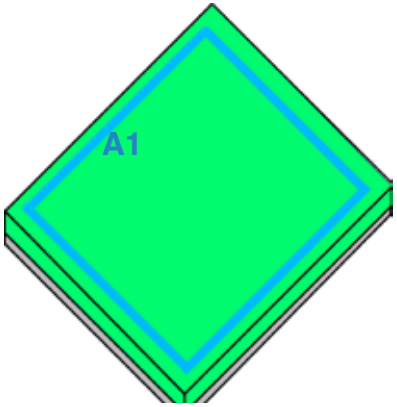


Variant 1 with BFL-Mastix bands type R applied by hot gluing on hard concrete.

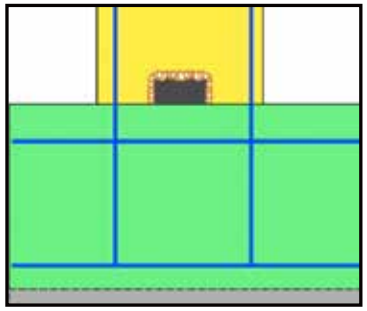
2.1 Existing raft with BFL-Mastix bands for the waterproofing between raft and walls

Procedures

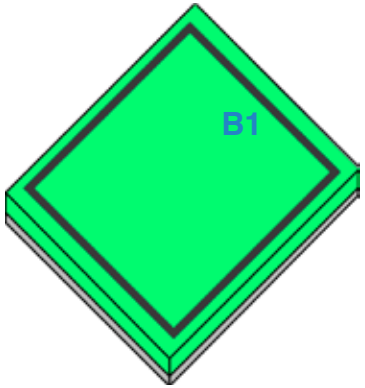
A



A1 Cleaning of the gluing surface by brushing, sandblasting or high pressure water jet.

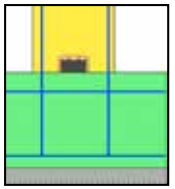


The bands are placed in the wall centreline



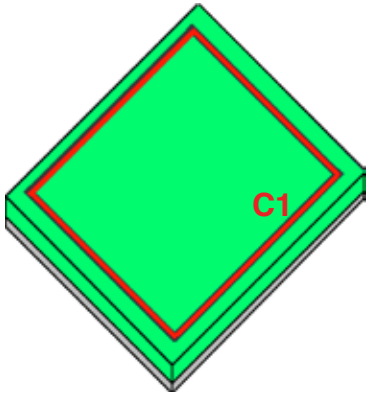
B1 Applying the BFL-Primer

Applying the BFL-Mastix bands type R on BFL-Primer coating.
For a perfect gluing, the gluing surface must be heated up to at least 100 °C



C

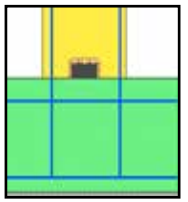
étanchéité contre les venues d'eaux latérales entre le radier et les murs



C1 Hot gluing of BFL-Mastix bands type R

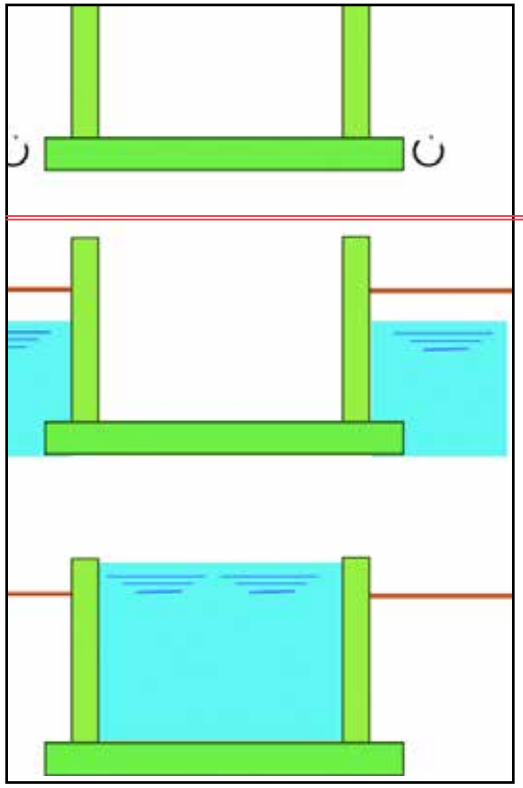
Using BFL-Mastix bands type R in a construction project with precast walls.

2.1 Existing raft with BFL-Mastix bands for the waterproofing between raft and walls



Choice of a BFL-Mastix band

Risk of water infiltration



subsoil water	15/30 R
- rain	20/40 R
- spring	30/40 R
water level	
- permanent	20/70 R
- intermittent	30/40 R
	40/50 R
- swimming pool	40/70 R
- basin	
- reservoir	

Text :

BFL-Mastix bands .....R
applied by hot gluing on hard concrete.

3.1 Carring out of a raft in two stages or more, using BFL-Mastix bands for the waterproofing between the concreting stages of the raft and between raft and walls

Procedure for placing bands type R

Material

A small propane gas burner - a spatula for cutting the bands - In order to avoid injuries, gloves and protection goggles should be used -

Procedure

- **The gluing surface must be clean and dry.** The surface treatment is made by brushing, sand blasting or high pressure water.
  A rough surface is better than a smooth one.
- Applying a BFL-Primer paint results **in a better impermeabilization of the gluing surface.**The BFL-Primer reinforces also the gluing quality on old concrete **(1,2)**.
- The gluing surface is heated up to **a minimum of 100 °C (212 °F) (3)**. When the BFL-Mastix bands enter in contact with the heated support surface, the band surface becomes liquid. **The material of the core can therefore penetrate into the pores of the concrete and form a mechanical anchorage .**
- **For heating the gluing surface,** a propane gas burner with a jet diameter of 20 to 25 mm is used **(4)**.
- Before placing the bands on the heated concrete, **their surface must be flamed.** This means to pass with the gas flame over the naked band surface.**(5)**.
- **It is recommended to proceed to an adhesion test to control every time the strength of the gluing (6).**
- Joining bands is done with the help of a small propane gas burner. This operation consists of heating rapidly both band ends and press them together **(7,8,9)**.
  Perpendicular joints **are made by scratching off the fine gravel and heating the surface to be glued (10)**

1

2

3

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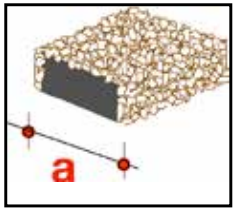
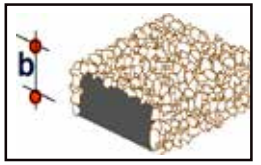
3.1 Carring out of a raft in two stages or more, using BFL-Mastix bands for the waterproofing between the concreting stages of the raft and between raft and walls

Catalogue of BFL-Mastix waterproofing bands R

Bands	Dimensions cm		Length cm	Packaging m'/box	Weight kg/m'
	a	b			
15/30 R	4.00	2.00	60.00	21.00	1.00
20/40 R	5.00	2.50	60.00	12.00	1.80
20/70 R	8.50	2.50	60.00	6.00	2.80
20/120 R	13.00	2.50	60.00	6.00	4.50
30/40 R	5.00	3.50	60.00	9.00	2.50
40/50 R	6.00	4.50	60.00	6.00	4.00
40/70 R	8.00	4.50	60.00	6.00	4.50
40/100 R	11.00	4.50	60.00	3.60	6.00
BFL-Primer		can of 1kg			

Bands	Dimensions in.		Length in.	Packaging ft./box	Weight lb./ft.
	a	b			
15/30 R	1.57	0.78	23.62	68.89	0.67
20/40 R	1.96	0.98	23.62	39.37	1.20
20/70 R	3.34	0.98	23.62	19.68	1.88
20/120 R	5.11	0.98	23.62	19.68	3.02
30/40 R	1.96	1.37	23.62	29.52	1.67
40/50 R	2.36	1.77	23.62	19.68	2.68
40/70 R	3.14	1.77	23.62	19.68	3.20
40/100 R	4.33	1.77	23.62	11.81	4.93
BFL-Primer		can of 2.20 lb.			





Placing yield

- With two workmen it is generally possible to place some **25 to 30 m'/hour** of **BFL-Mastix bands type R**

Storing conditions

- covered shelter
- In case of packaging damage, the bands will be put in a new box.

Compatibility of BFL-Mastix bands with concrete

- Thanks to the gravel coating of the core, the BFL-Mastix bands assure a perfect liaison with fresh concrete.
- The fine crushed gravel is not alkali-reactive.
- **The core of the BFL-Mastix bands ist form-stable in the presence of water, the bands do not swell.**

3.1 Carring out of a raft in two stages or more, using BFL-Mastix bands for the waterproofing between the concreting stages of the raft and between raft and walls

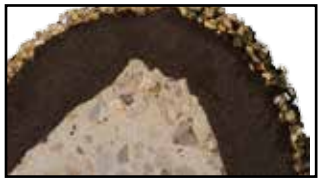
Arguments in favour of BFL-Mastix bands type R

Presentation of the bands

- **BFL-Mastix bands are designed for a long term waterproofing of joints in concrete structures.**
- **The bands of type R consist of a deformable core, covered with crushed special fine gravel on three faces**
- The core of the BFL-Mastix bands type R behave like a liquid of very high viscosity.
- This is a deformable bituminous plasto-elastic polymer.
- The fine crushed gravel has the task to form an adhesion bridge between core and fresh concrete (concrete in liquid stage).
- **The company Mastix SA. is certified ISO-2008, quality management.**

Adherence on hard concrete and in fresh concrete

- **BFL-Mastix bands type R adhere on hard concrete by hot gluing (thermal gluing), regardless the roughness of the contact surface. The temperature on the concrete surface must be at least 100 °Centigrades (212 ° Fahrehneit)**
- The very rough surface of the gravel covered BFL-Mastix band core offers an ideal base to assure a waterproof liaison with the fresh concrete.
- The fine crushed gravel, covering the band core is then enveloped in the same way by the cement milk as the sand/gravel of the concrete.
- **Fresh concrete adheres only on porous surfaces such as hard and clean concrete and the gravel covered core surfaces of BFL-Mastix bands.**
- Fresh concrete cannot adhere on impermeable surfaces, such as plastic, resins or metal.



Adherence on hard concrete

On the job site

- BFL-Mastix bands type R placed into the concrete of a raft, **remain insensitive against rain, snow or frost.**
- BFL-Mastix bands type R can remain, **if necessary, uncovered for several weeks.**
- In case of intensive sunshine, t**he bands must be moistened as well as the raft concrete.**

3.1 Carrying out of a raft in two stages or more, using BFL-Mastix bands for the waterproofing between the concreting stages of the raft and between raft and walls

Technical specifications

The core of the BFL-Mastix bands

Bituminous rubber – density 1.28 g/cm3 – grey mat colour –consistency plasto-elastic – smooth surface – slightly smelling – square or rectangular sections – lengthening capacity between 200 and 380 %.

- Elasticity module

- at -20°C	frequency 0,25 s	4,419 Mpa			
- at 0°C	frequency 15,7 s	2,075 Mpa	- at 0°C	frequency 0,25 s	0,477 Mpa
- at 20°C	frequency 15,7 s	0,308 Mpa	- at 20°C	frequency 0,25 s	0,133 Mpa
- at 40°C	frequency 15,7 s	0,120 Mpa	- at 40°C	frequency 0,25 s	0,049 Mpa

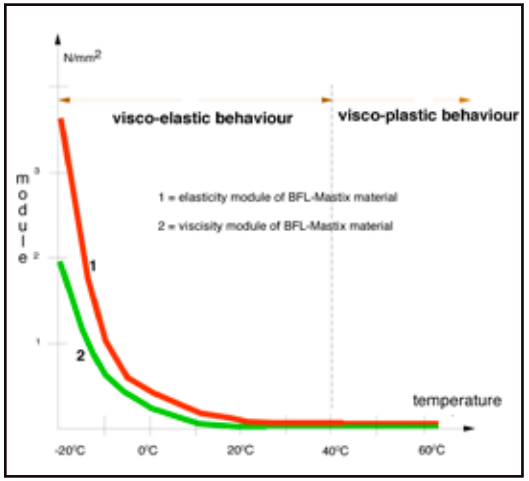
- Viscosity module

- at -20°C	frequency 0,25 s	2,252 Mpa			
- at 0°C	frequency 15,7 s	1,616 Mpa	- at 0°C	frequency 0,25 s	0,309 Mpa
- at 20°C	frequency 15,7 s	0,222 Mpa	- at 20°C	frequency 0,25 s	0,056 Mpa
- at 40°C	frequency 15,7 s	0,074 Mpa	- at 40°C	frequency 0,25 s	0,024 Mpa

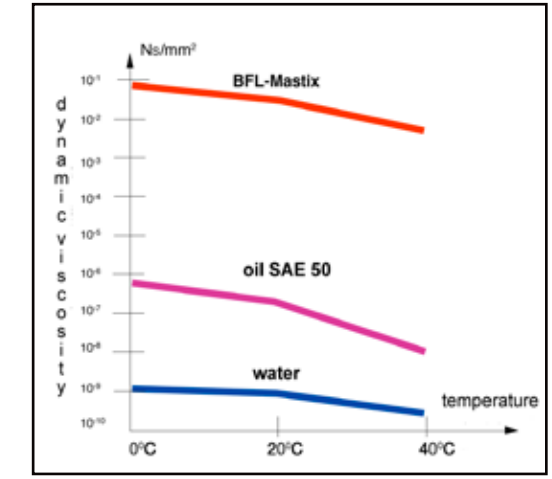
The behaviour of the core is comparable to liquid of very high viscosity. It cannot break

- return deformation : medium value of return deformation in % of the initial deformation

- at -20°C	60.8%	after 15 minutes	- at -20°C	66 %	after 60 minutes
- at 0°C	84.8%	after 15 minutes	- at 0°C	89,2%	after 60 minutes
- at 20°C	96.8%	after 15 minutes	- at 20°C	100 %	after 60 minutes
- at 40°C	98.0%	after 15 minutes	- at 40°C	100 %	after 60 minutes



Temperature influence on the core material



Comparison of viscosity modules

Gravel covered bands

- **The with fine gravel covered core surface is not alkali-reactive.**
- **The fine gravel is of 4/8 mm grain** and mainly of calcareous rock.
- **Integrated in concrete, the BFL-Mastix bands offer** high resistance against chemical aggression and the alkalinity of the concrete.
- **In possible contacts with petrol or hot oil in a basin,** then the bands BFL-Mastix types 40/70 R4 or 40/100 R4 must be used for waterproofing joints between raft and walls.
- **BFL-Mastix bands offer high resistance against** deicing salt, acid water, liquid manure, sulfated or chlored water in swimming pools They offer also a high resistance against ammonium-sulfate 10 g/l, ammonium-chloride 10 g/l, caustic soda 30 g/l, ammonia 25 %, sulfuric acid 50 %, pure olein acid and ethyl alcohol (ethanol).
- **Confined in concrete, BFL-Mastix waterstops are well protected against mechanical aggression,** contrary to an external insulation, which in case of maintenance works, repairs or enlargements can easily suffer damages.