

# EXRR2



## GENERAL INFORMATION

**EXRR-2** is a two component excellent reactive system used for Impregnation of the liners for the CIPP pipe repair method.

Product description:

- The EXRR-2 is a solvent free, pigmented, two component excellent reactive epoxy system with high mechanical properties and high TG when cured event at room temperature or temperatures down to three deg C.
- very good resitant system against acids, bases as well as oil derivates,
- very good bonding ability to the pipes made of concrete and metal,
- Colour hardener: Light orange, resin: blue
- shelf life: two years at least,
- storage conditions: dry place, preferably in originaly sealed containers at temperatures between 5 and 25 deg C.

The system does react until min environmental temperature of 3 deg C without heat support.

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## GENERAL INFORMATION

### EX2-2

COMPONENT	VISCOSITY AT 22 DEG C mPas	DENSITY AT 22 DEG C g/cm <sup>3</sup>
COMPONENT A	800-1100	1,13
COMPONENT B	5000-6000	1,00
COMPONENT A+B	1600-1800	1,10
MIX RATIO( per weight)	100:30	

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## PROCESSING TIME AND CURE SCHEDULE

Processing time for a system mix at room temperature (20-22 deg C)

Material temperature	10 deg C	15 deg C	20 deg C
PROCESSING TIME (min) for the 125g Specimen to warm up to 40 deg C	14-16	12-14	10-12

Processing time for an impregnated liner

Air temperature	10 deg C	15 deg C	20 deg C
PROCESSING TIME (min)	approx 30	approx 23	approx 20

**Important!!!** Must mix according to the mix ratio.

Must completely empty both cans to get the proper mix ratio.

Must mix with a slowly rotating blender to achieve a homogenous texture.

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## PROCESSING TIME AND CURE SCHEDULE

### Cure schedule time for a system – ambient curing

Environment temperature	10 deg C	15 deg C	20 deg C
Cure time – time recommended for the pressure drop	4 hour	2,5-3 hour	2,0-2,5 hour

### Cure schedule time for a system – warm curing

Temperature	40 deg C	50 deg C	60 deg C
Cure time – time recommended	60 min	30 min	20 min

**Important!!!**

**MUST UNDERSTAND: TOTAL CURE TIME CONSISTS OF:**

**WARMING UP PROCESS**

**CURING PROCESS**

**COLLING DOWN PROCESS**

## TIME AND CURE SCHEDULE

### Cure schedule time for a system – **warming up process**

Liner size	DN 100	DN 125	DN 150	DN 200
Warm up time recommended for the liner length from 10m-50m	6-25 min	10-40min	12-60min	20-90 min

### Cure schedule time for a system – **Cool down process**

Temperature	DN 100	DN 125	DN 150	DN 200
Cool down time recommended for a liner length from 10m-50m	15-30 min	20-40 min	30-60 min	40-80 min

### Important!!!

- WHEN WARM CURING MUST RELIESE THE CALIBRATION PRESSURE FIRST WHEN COMPOSITE IS COOLED DOWN TO AT LEAST 20 DEG C,
- DATA GIVEN ARE FOR THE WARM WATER CURING- 50 DEG C. IF HIGHER TEMPERATURE IS IMPLIED WE DO RECOMMEND TO EXTEND THE COOL DOWN TIME.
- WHEN AIR IMPLIED AS COOL DOWN MEDIA THAN EXTEND COOL DOWN TIME UNTIL REACH 20 DEG C IN THE COMPOSITE TO PREVEN THE LINER TO COLLAPSE.

## Technical characteristics

When ambient cured at 16 deg C for 3 days it results in the following characteristics

Property	Norm	Unit	Value
Flexural Strength	EN ISO 11296-4 EN ISO 178	MPa	min 50
Flexural Modulus	EN ISO 11296-4 EN ISO 178	MPa	min 2800
Elongation at brake	EN ISO 11296-4 EN ISO 178	%	min 2,5
TG	EN ISO 11296-4	deg C	65

### CHEMICAL RESISTANCE GENERALLY

Excellent resistant to low to medium concentration bases and acids as well as to oil derivates.