MM1018 FL #1866

Product description

MM1018 – The liquid feed sheet – is a highly filled metal polymer for full-surface and force-filling of inaccuracies and unevenness between metal elements such as head plates, bridge bearings, crane and rail guides as well as steel components. Due to its high dimensional stability, MM1018 is also suitable for use in prestressed joints. The DIAMANT MM1018 liquid feed sheet has already been used by more than 1,000 buildings worldwide.

Liquid variant for casting or injecting. Product hardens under room conditions. Pressure resistance of up to 160 N/mm2.

MM1018 liquid is a product with general approval by building authorities (abZ). Registration number: Z-3. 82-2042

Characteristics

- Very high compressive strength
- Low creeping properties
- Pressure threshold strength up to 10 million load changes (strength proof for steel)
- Fast curing
- Resistant to corrosion and weathering
- Injection or casting for almost any gap situation
- General approval by the building inspectorate (abZ)
- Seawater resistant, ABS Design Assessment

Typical application

Gap compensation, force-locked connection to

- Headplate bumps
- Bridge bearings
- Crane and guide rails
- Silos
- Steel and water engineering
- Steel construction and structural steel
- Tunnelling

for joints steel to steel and steel to concrete.

Pack sizes

Article	Description
4,5kg	
1,5kg	

Custom sizes on request.

Product data delivery condition

Hue component A (resin) component B (Hardener)	Grey Transparent (slightly yellow)
Storabillity	Store dry and frost-free in the unopened container. Durability 24 months. Avoid direct sunlight. Higher temperatures reduce the durability.
Density component A (resin) component B (Hardener)	3,0 g/cm³ 1,0 g/cm³
Grain	125µm
Mixing ratio component A (resin) component B (Hardener)	21,3 1
Pot life	89 min ±20% (T15K, DIN EN ISO 9514)
Processing temperature Material temperature Component surface	+5°C - +30°C +5°C - +40°C

Usage	The base area (A in cm2) and the mean gap dimension (d in cm) are required as the basis for the calculation of the material consumption. M (in g) = A cm² * d cm * 1,2 * 2,6g/cm² Example: 1m2 contact surface with 1mm gap M = 10,000cm2 * 0,1cm * 1,2 * 2,6g/cm3 = 3120g = 3,12kg In this calculation, a material surplus of 20% is calculated to compensate for tolerances as well as additional consumption due to application.
Maximum layer thickness Tested by the manufacturer	bis 140mm
Approved according to abZ	until 10mm It is permitted to reduce the gap size by inserting feed plates and to apply MM1018 e. g. in several layers up to a maximum of 10mm.

Product data (reactive product)

Density	2.66 g/cm³	
Compressive strength	161 N/mm²	DIN EN 13412:2006
Strength	89	
E-Modul	10.000 N/mm²	DIN EN 12190:1998
Thermal expansion coefficient	0.00002 1/K	bei -20°C bis +60°C
Temperature resistance (permanent)	160 °C	
Shrinkage	0.035 %	DIN EN 12617-4:2002

Colour	grey	
Creep coefficient	1,1	DIN EN ISO 13584:2003-11
Friction coefficient	größer 0,5	
Viscosity	16.900 mPas	DIN EN ISO 3219:1994

Custody / Durability

Store dry and frost-free in the unopened container. Durability 24 months. Avoid direct sunlight. Higher temperatures reduce the durability.

Processing parameters

The processing time (potting time) of the material begins as soon as the two components A and B are added together. Pot and curing time depend on the amount of material and the temperature. For larger containers, the potting time may be reduced due to a higher reaction heat. The following table gives practical pot life values for a 1kg package:

Temperature [°C]	Pot life [Min]
10	110
20	55
30	30

Measured with 1 kg of product in the original container

Material curing can be accelerated by heating. The maximum permissible temperature for accelerated curing is 65°C. The required minimum curing temperature is +5°C. At lower temperatures, it is recommended to preheat the components.

Temperature [°C]	Compressive strength [N/mm²]	Time until compressive strength is attained
5	-	24 hours
5	138	7 days
21	156	24 hours
21	161	7 days
30	166	24 hours
30	182	7 days

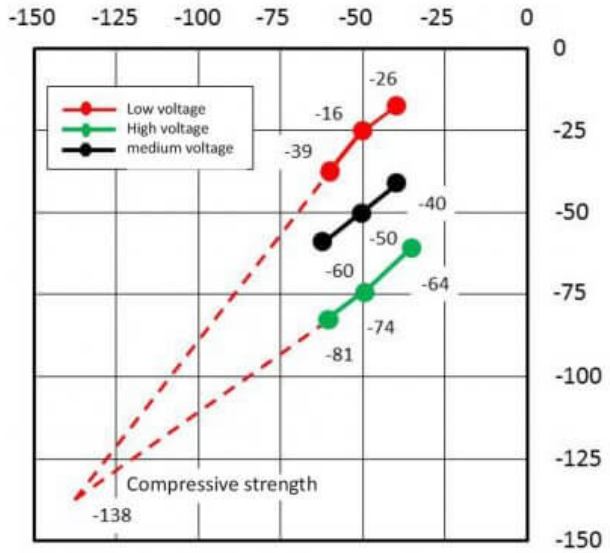
Compressive strength relative to the ambient temperature

Fatigue srength

The compression threshold strength of MM1018 can be seen in the following Smith diagram:

Medium stress N/mm²	Amplitude in N/mm²	Achieved cycle number
40	24	10,000,000
50	24	10,000,000
60	21	10,000,000

Maximum achieved amplitude per medium stress



Smith chart for MM1018 FL

Work preparation

Contact surfaces wetted with MM1018 must be cleaned of dirt and loose particles using deoiled compressed air if possible. The Diamant-Reininger #1417 is recommended. The cleaner must be placed on a lint-free cloth, with which the contact surface is then cleaned. Screws must be protected if necessary (e. g. DIAMANT Screw Protector #8880) to prevent future adhesion of the threads with MM1018. If the contact surfaces have to be separated again at a later time, it is necessary to apply a release agent (e. g. DIAMANT release agent #1354) in advance.

Mixing process

For mixing of MM1018, component B is placed completely in the container with component A. Mix intensively with a hand drill and the DIAMANT mixing propeller (Art. -No. #0789) (max. 250 rpm for approx. 2 minutes). Wipe off material adhering to the wall of the container with a spatula and add to

the mixture. Mix again thoroughly.

Application description

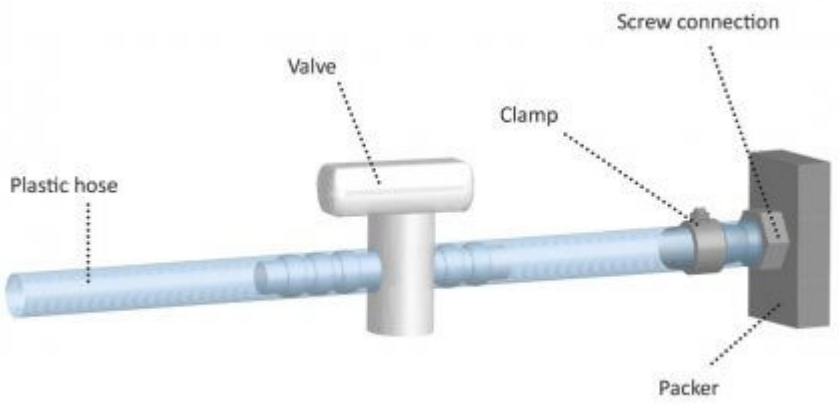
MM1018 liquid may be administered by watering or injecting. In both cases, it is necessary that the slit to be poured is sealed to prevent MM1018 from leaking out of the slit. For gap sealing, the use of MM1018 SEAL #2108 is recommended. Information on material and workmanship can be found in the technical data sheet MM1018 SEAL #2108.

Casting

The mixed MM1018 can be used to seal the gap by pouring it into a cavity. Transfer the mixed MM1018 into a clean container before pouring. From this vessel, the material can be poured directly into the cavity. Care must be taken to ensure adequate ventilation and air bubble-free pouring.

Inject

MM1018 may be injected into a sealed cavity. Prerequisite for the injection are appropriate injection and ventilation openings, which have to be planned depending on the available gap size or cavity. The injection is carried out via flexible plastic hoses (prod. –No. #1579) using shut-off valves (prod. –No. #1577) which are attached via R1/4” screw connections (prod. –No. #1578) at the inlet and outlet points. A 150mm long plastic hose, a shut-off valve and a further piece of hose designed according to the working conditions are to be attached via suitable hose points (prod. –No. # 1576).



1) Example of an injection port

MM1018 is blended according to the processing instructions. The finished mixed product is then transferred in a stream as thin as possible to avoid air bubbles forming into an empty catelet (Prod. –No. #1573 – 320ml). After filling, the cartridge is closed with a cartridge plunger and slowly rotated to allow the liquid MM1018 to flow from the tip to the plunger causing the trapped air in the cartridge to rise to the tip of the cartridge. This procedure is especially necessary for a bladder-free injection! The cartridge can now be opened at the top with a knife and the tip screwed on. It is recommended to shorten the cartridge tip a bit so that it has a one diameter of approx. 8 mm. This reduces injection resistance and facilitates press-in. The cartridge tip is now placed by hand on the free end of the hose.

After opening the stop valve, the injection can be started. Pressing should be done with a constant

pressure. It is essential to ensure that no air bubbles are pressed through the hose into the cavity! To change the cartridge or refill, the shut-off valve is closed to prevent backflow of the already injected material. The free hose end is fixed for the cartridge change so that no material can leak. The injection is stopped as soon as the material leaves the upper vent. The stop valve must be closed before removing the cartridge. Material flowing back from the injection hose, for example, should be collected with a cloth and properly disposed of in the household waste.

After 24 hours of curing, the injection and ventilation connections can be cut off and disposed of in the household waste.

Instructions

1.)Cleaning and, if necessary, applying release agent

2.) Mounting screw guards

3.) Insert and prepare the injection opening

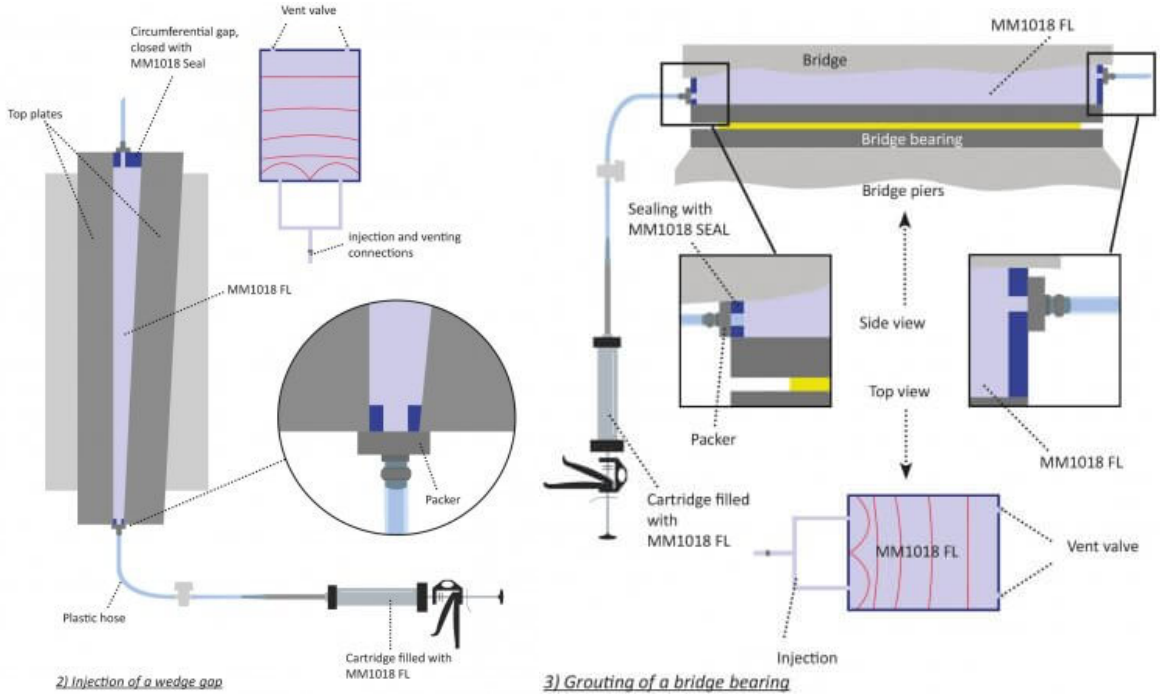
4.) Circulating sealing with MM1018 SEAL

5.) Let MM1018 liquid cure

6.) Injection with DIiamond MM1018 liquid

7.) let MM1018 cure liquid

8.) Cut off the injection connections and clean them



Disposal

Unused material can be disposed of normally if it has been mixed in the correct mixing ratio and is fully

cured (EAKV 170 203). Unmixed material must be disposed of as chemical waste (EAKV 080 111).

When booking our DIAMANT application service, we take care of the professional and correct disposal of the waste

Qualification und Service

In order to ensure the best possible quality and error-free application, the following services will be offered:

- Product training
- Site supervision and supervision (supervising)
- Complete execution of the work by our experienced application technicians or fitters

Please contact us, we will be happy to advise you and will be there immediately.

Safety data sheet

Please read the relevant safety data sheet before processing the product. Safety data sheets are available daily on request via info@diamant-polymer. de or by phone at +49-2166-98 360. DIAMANT guarantees the product characteristics as long as they are stored and used according to the specifications listed here. DIAMANT assumes no responsibility for the processing of the material. For further questions, our technicians will help you

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This issue replaces all previous versions