TECHNICAL BULLETIN No.: 04.05





QUICK-SETTING HYDRAULIC MORTAR FOR STOPPING LEAKS UNDER PRESSURE



DESCRIPTION

MAXPLUG • is a quick-setting cement-based mortar that instantly stops running water from cracks, fissures, holes or other openings in concrete and masonry. It is non-shrink and sets within three to five minutes depending on the temperature. Once **MAXPLUG** • sets, it adheres perfectly to the substrate. It only requires water for mixing.

APPLICATION FIELDS

- * Sealing of leaks in concrete surfaces, solid masonry and other sound substrates wherein water flows through cracks and holes.
- * Emergency repairs on concrete water pipes. For broken concrete pipes, *MAXPLUG* [®] will even work when the





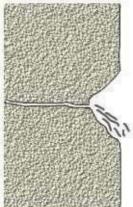
when the concrete pipes are under hydrostatic pressure

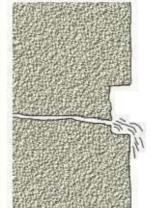
APPLICATIONS FIELDS:

- Sealing of leaks in concrete surfaces, solid masonry and other sound substrates with active water flow through cracks and holes.
- Emergency repairs on concrete water pipes. For broken concrete pipes, *MAXPLUG* will even work when the concrete pipes are under hydrostatic pressure.
- Emergency plugging of gas leaks.
- Sealing of concave corners and working joints, filling the grooves with *MAXPLUG* in the shape of a cone.
- Anchoring of bolts and other accessories that require immediate use.
- Stopping running water in basements, tunnels foundations and sewers under hydrostatic pressure.
- It is a suitable maintenance material for homes and industry.

ADVANTAGES:

- Does not shrink, or become weak due to its exothermic reaction.
- **MAXPLUG** increases in volume, giving a permanent seal in areas where there is flowing water.
- Its quick setting-time from 3 to 5 minutes can be controlled, either sped up or slowed down, by adding warm or cold water.
- Setting may even be instantaneous by adding hot water during warm weather.
- Its mechanical properties are similar or higher than concrete.
- Non-toxic. It can be used in contact with drinking water.





- Will set underwater.
- Does not contain chlorides.
- Easy to use.

APPLICATION INSTRUCTIONS

Surface Preparation

Cracks or fissures must be opened to a minimum depth of 3 cm and a width from 3 to 4 cm. In order to provide a good mechanical key, make a square- shaped groove; preferably dovetail to the surface to which the material is applied. Avoid a "V" shape, as shown in images below.

Clean the surface until it is free of any loose or unsound materials or surface contaminants. If there is no water present at the time of application, dampen the surface before applying **MAXPLUG or use Maxgrip**.

Mixing

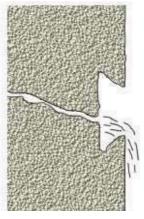
Mix only the amounts of **MAXPLUG** that can be applied within 3 minutes under normal conditions. If flowing water is present, only the amount of material that can be applied by hand should be mixed.

In order to mix the mortar, use a plastic container, fill it with the necessary amount of *MAXPLUG*, and add clean water slowly. Mix all components slowly with a trowel until the consistency of cement mortar is achieved. Depending on weather conditions, one kg of *MAXPLUG* requires about 0.28 litres of water.

Application

Sealing leaks in cracks or joints.

Prepare the surface removing loose or unsound concrete from the crack or joint and cutting to a depth of 5 cm. *MAXPLUG* should be applied in small amounts that can be applied by hand. Do not pour the material in place; always apply by hand.



WRONG



BEST











SEALING PROCESS WITH MAXPLUG



Once **MAXPLUG** is mixed, form the mixture into the shape of a plug and hold it in your hand until it becomes warm and then, press **MAXPLUG** firmly into the crack or joint but do not twist or overwork.

Maintain steady pressure with the hand until it sets and finally remove any excess material with a trowel.

In large openings with high pressure such as tunnels and basements, begin the application at the top of the crack and proceed area until the crack is sealed.

Sealing joints between concrete slabs and wall.

This is a common situation in basements, elevator shafts, swimming pools and reservoirs. Along the concave corners at least a 2×3 cm groove must be opened and filled with **MAXPLUG** in the shape of a waterproofing cone. If there is NO water flow use Maxgrip.

If movement is a problem use Maxjoint Elastic

Expansion joints.

Once *MAXPLUG* sets, it becomes a rigid product so it is not the suitable material for expansion joints. Nevertheless,

in order to stop running water from these joints it can be used.

Perform a groove along the joint and refill it with *MAXPLUG*

to stop the water . After **MAXPLUG** hardens, cut and define the new joint, sealing with a flexible material such as **MAXJOINT ELASTIC**.

Anchoring.

To anchor steel bolts and other metal fixtures, MAXPLUG is suitable if there is flowing water. Use <code>MAXGRIP</code> if there is

NO flow of water.

Application conditions

The optimum setting time corresponds with a temperature range from 18 °C to 20 °C.

MAXPLUG will set in about 3 to 5 min, depending on product and mixing water temperature and relative humidity.

- Hot weather application.

At high temperatures or where it is exposed to high winds, **MAXPLUG** will set very quickly. In order to slow down the setting time, cold water may be used. This procedure allows to apply the material within 30 - 60 seconds after mixing. In extreme cases, product should be kept in the shade and ice should be added to the mixing water in order to slow down the setting time.

- Cold weather application.

In order to shorten the setting time, warm or hot water may be used.

Cleaning

Before **MAXPLUG** sets, all tools and equipment should be cleaned immediately with water. Once it hardens it can only be removed by mechanical means.

CONSUMPTION

One kg of *MAXPLUG/Maxgrip* fills about 0.615-0.620 I, depending on the amount of mixing water. (approximately 1.62 kg/l).

STORAGE

Twelve months in its unopened packaging. It should be stored in a dry, covered place protected from sun light and with temperatures above 5 $^{\circ}$ C.

PACKAGING





IMPORTANT CAUTIONS

- Always use clean and dry tools to take *MAXPLUG* from the packaging.
- Do not mix the product with other materials or hardened product as the mixture characteristics may be modified.
- For further information, consult our Technical Department.

SAFETY AND HEALTH

As all cement-based products, MAXPLUG is an

abrasive product, protective rubber gloves and safety goggles must be used to prepare and apply the mixture. In case of eye contact, rinse thoroughly with clean water for at least 15 min, but do not rub.

- In case of skin contact, wash affected areas with soap and water. If irritation continues, seek medical attention. For further information, Safety Data Sheet for **MAXPLUG** is available by request.
- Disposal of the product and its empty containers must be made according to official regulations. This disposal must be made by the final user.

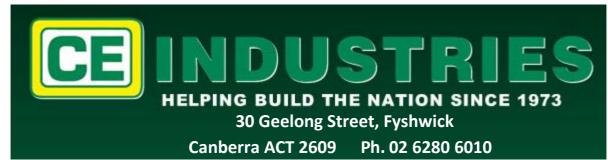
GUARANTEE

 The information contained in this leaflet is based on our experience and technical knowledge, obtained through laboratory testing and from bibliographic material. *DRIZORO* reserves the right to introduce changes without prior notice. Any use of this

data beyond the purposes expressly specified in the Technical Bulletin will not be the Company's responsibility unless authorised by us. The data shown on consumptions, measurement and yields are for guidance only and based on our experience. This data is subject to variation due to the specific atmospheric and jobsite conditions so reasonable variations from the data may be experienced. In order to know the real data, a test

 on the jobsite must be done, and it will be carried out under the client responsibility. We shall not accept responsibility exceeding the value of the purchased product. For any other advise, consult our Technical Department.

TECHNICAL DATA		
AGE	MECHANICAL STRENGTH (MPa)	
	FLEXURAL	COMPRESSIVE
30 minutes	1,2	3,8
3 days	3,7	22,5
7 days	5,7	36,2
28 days	5,2	40,7



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