



Průmyslová keramika, spol. s r.o.  
Spešovská 627  
CZ 679 02 Rájec-Jestřebí  
( ++420-516 432 197  
++420-516 432 251  
Fax ++420-516 432 273  
e-mail: [prumker@prumker.cz](mailto:prumker@prumker.cz)  
[www.prumker.cz](http://www.prumker.cz)

# INSTRUCTIONS

## FOR PROCESSING MANUALLY APPLIED CASTABLES





These instructions are to be followed when applying castable mixes using mostly manual methods. As to the production range of Průmyslová keramika company, they are to be applied to the following products:

- ŽÁROBET 1200-patch-FPP
- ŽÁROBET 1400-patch-FPP
- ŽÁROBET TOR-1400-jS
- ŽÁROBET AL-patch-J
- ŽÁROBET AL-patch-H
- MEBET 1350-patch
- MEBET 1450-patch

### Castable mixing

The delivered dry castables already contain all components except for water. Pour the mix out of the bag into a prepared mixer and mix it for about a half of a minute in dry condition. Then add the determined amount of water and mix for another five minutes. The consistency can be modified by adding a small amount of water to fit to the given application method according to the way of application.

The following recommendations should be taken into account:

-  Always empty the complete contents of the bag into the mixer. Separation of some components in the bags may occur as a consequence of long preparation and handling.
-  Mixing water has to comply with ČSN 72 2028 standard, drinking water need not to be tested, use of industrial water is not admissible as there is a risk of poor curing.
-  Mixers and used tools should be clean; it is especially necessary to remove potential residues of Portland cement and lime from them.
-  The use of mixers with forced paddles rotation should be used. Standard concrete mixers with gravity mixing are less suitable, the mixture mixed in them requires a higher amount of mixing water and castable made in this way is of inferior quality.

## Mixture processing

The refractory mixtures described above are intended above all for applying using manual methods, i.e. by ramming, rodding, smearing, trowelling, etc. However, they can also be applied by the gunning method, however, they may not be applied using vibrations under any circumstances.

Select the optimum consistency of castable mixture according to the installation used. The mixture should be applied within 15 to 30 minutes from mixing depending on the temperature of the prepared castable and ambient temperature because it starts to cure after this period.

## Treatment of applied fire resistant concrete

Freshly applied castable should be protected against effects of excessive heat, frost, shocks and vibrations. Shocks and vibrations are unacceptable during the curing period. It is necessary to protect the castable surface against drying out, e.g. by water spraying or PE foil or wet tarp covering upon the start of solidification for at least 48 hours. During solidification and the hardening period, keep the temperature within 15 – 20 °C range if possible.

## Fire resistant concrete surface stripping

If the castable has been poured into shuttering, this shuttering can be removed gradually immediately after the castable cures; in case of all-mass lining, ceiling, etc. after 24 hours after pouring at the earliest.

## Drying and start of use of lining

Hardened castable contains a portion of mixing water, namely both in a form of chemically bound water and free water. The contents of free water vary according to the amount that has been evaporated during storage. Both free and bound water in castable has to be removed during the first heating and start of use of lining. Drying and the first heating of lining should take place slowly in order that the water present can escape. If heating is too fast, there is a risk of castable damage (cracking, peeling) or even complete destruction.

The rate of heating, drying and conditioning of castable is a complicated factor that depends on many circumstances, above all on the weight of lining, evaporated surface, speed of discharge of vapours, compactness of castable and other conditions. In case of new aggregates, the drying curve is specified with the designer, in case of repeated processes (e.g. repairs), drying is usually performed on the basis of experience.

In case of lack of experience with lining drying, we recommend you ask for assistance from specialized companies.