




## INSTRUCTIONS FOR PROCESSING OF RAMMING MIXES for CUPOLA FURNACES


The ramming mixes are mostly supplied wet with 5-7% humidity, in polyethylene bags. If the humidity is lost during storage or transportation, you can moisten the mix with drinking water to the required humidity.


### Procedure:


 To ram, a template corresponding to cupola furnace dimensions is required. The template is mostly three-piece, metal – 50-60cm high. Fix this template centrally within the cupola furnace. Put the ramming mix into the template in 5-8cm layers max. and compact using a pneumatic or electric ramming device as most as possible. When the template is completely full, move it by about  $\frac{3}{4}$  of its height and keep the procedure. Protect nozzles with wood, metal or other materials against damage.

 You can make running holes at the lining wall of the cupola furnace by ramming steel bars with the diameter of about 10-15mm during the ramming operation so that the vapour arising during the heating can leave well. So vertical channels are made and the vapour can leave better.


 After the furnace ramming is completed, put down a basket with burning coke into the furnace to dry up the rammed lining perfectly. During the drying, cover large holes with metal plates. You can also use oil or gas burners instead of the coke. The flame is not allowed to go directly to the rammed lining because the rammed lining can become overheated quickly and damaged due to the rapid vapour formation.

 The coke basket is advantageous because the furnace can be filled with another coke dose to the height of about 1m for normal operation after the rammed lining is dry.

 Keep the coke burning using throttled blast for about 10 minutes.

 Then you can open the nozzles and the coke can ignite by natural flame – without oxygen for about 30 minutes.

 Then you can start normal charge operation of the furnace.

 Always do repairs using the same materials (to do small repairs, wet the mix to 8-10% and wipe damaged places with this mix). Before repairing, clean the dirty lining walls from the stuck metal.