



## Certificate of Approval

This is to certify that

**P-D Refractories GmbH, Dr. C. Otto  
Bochum, Germany**

has developed a unique lining concept with improved heat transfer of the melting end crown for glass melting furnaces. This lining concept is a combination of improved material properties (emissivity) of the new dense

Silica grades (e.g. GEH-e or G100-e)  
and optimized surface profile.



Furnace simulation results have shown a significant energy saving (about 2 %) of the used energy amount can be achieved.

  
Signature and stamp Glass Service



August 2014