

Burden Softening and Melting Properties



Corus Consulting Limited, Teesside Technology Centre, P.O. Box 11, Grangetown, Middlesbrough, Teesside TS6 6UB U.K. Telephone: +44 (0)1642 467144 Fax: +44 (0)1642 460321 E-mail: colin.notman@corusgroup.com

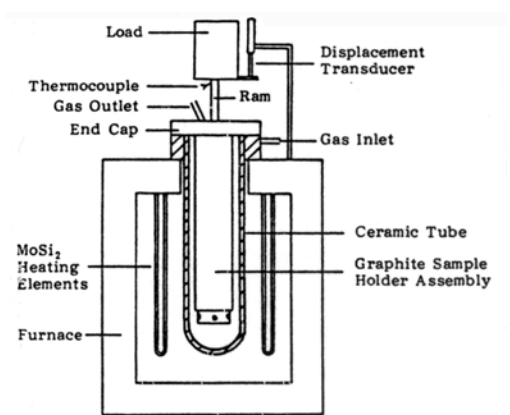
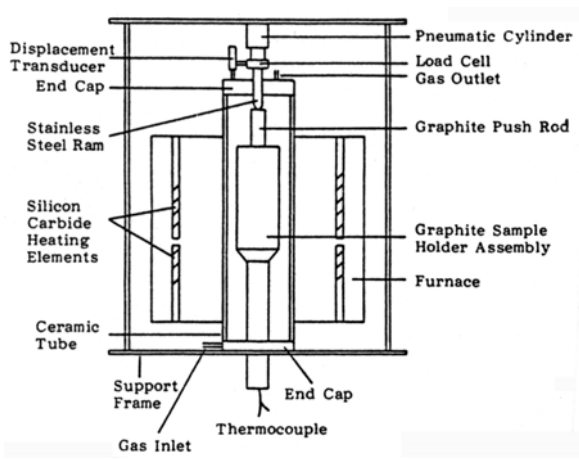
Teesside Technology Centre currently operates two tests to evaluate the high temperature reduction, softening and melting properties of blast furnace burden materials. These are the **High Temperature Softening and Melting Test (HTSM)** and the **Advanced Softening and Melting Test (ASAM)**.

Previous work on the **HTSM** apparatus has demonstrated a link between the presence of unmelted 'residual' material and problems with furnace permeability and instability.

The gas conditions used in the **HTSM** test do not, however, reflect those encountered in blast furnaces injecting moderate to high levels of hydrocarbons at the tuyeres. The **ASAM** test has been developed to simulate more closely such conditions, which are relevant to many modern blast furnaces.

The main **benefits** of carrying out this evaluation are:-

- Improved furnace productivity
- Reduced fuel rates
- Ensures the burden is made up of compatible components
- Metal quality improvements
- Increased furnace stability, and hence furnace campaign life



ADVANCED SOFTENING AND MELTING APPARATUS (ASAM)

HIGH TEMPERATURE SOFTENING AND MELTING APPARATUS (HTSM)

