

Standards in the field of refractory materials

Thematic seminar organized by the "Ceramics, Glass and Hard Materials" Standards-Cell

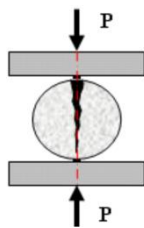
Date : December 01, 2022

Place : CRIBC (Centre de Recherches de l'Industrie Belge de la Céramique) - 4, avenue Gouverneur Cornez - B-7000 Mons - Belgique

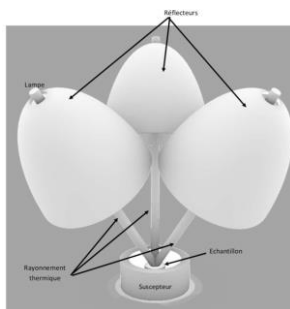
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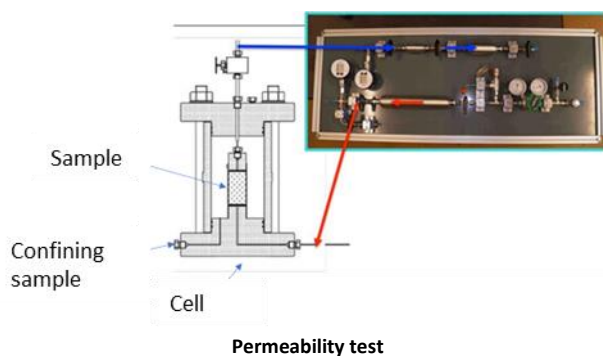
CONTEXT AND PURPOSE



Splitting test for the determination of tensile resistance



Ascendant thermal shock testing



Permeability test

Refractory materials are critical in heavy industries such as the steel, glass, cement, and aluminium industries. Indeed, these materials are used as lining for furnaces or as production tools for example for the casting of molten metals. These materials are therefore exposed to particularly severe conditions in service.

Depending on the application (insulation lining, wear layer, ...), the refractory material used for the lining of

installations and/or production tools must be able to withstand chemical, mechanical, or thermal stresses or even coupled stresses (thermochemical and/or thermomechanical). Therefore, to guarantee the highest possible sustainability and safety of the installations, the behaviour of these products in service must be predicted with accuracy.

The quality control of the refractory material batches at the manufacturer facilities or on user site before installation is also important to avoid possible problems in use.

To meet these requirements in terms of sustainability in service and quality control of refractory materials, standardized tests are used to determine the properties of these materials at different temperatures, to control the quality product but also to make a classification between various product grades. However, some standards need to be updated or new ones developed. Some old standards are simply not applicable for new materials, or the characteristic determined by the standardized test protocol is not representative of the real stress in service.

To improve the standards in the field of refractory materials and/or to develop new ones, CRIBC, with the financial support of SPF Economy and NBN, has been carrying out for years pre-standard studies.

The Standards-Cell of CRIBC, "Ceramics, Glass and Hard Materials", proposes to the actors of the refractory sector in Belgium and those related to this sector, to benefit of the results of these pre-standard studies by presenting them during a thematic seminar, **which will be organized on 01/12/22 in MONS**. Some standards on the control/quality of refractory materials before use will also be presented that day.

PROGRAMME

8 h 30 Welcoming participants

9 h *Welcome and presentation of the morning program*

9 h 10 **Introduction on refractory standards: status and challenges, importance of the Belgian sector operator in this field and contribution of the CVMD Standards Antenna (Jean-Pierre Erauw)**

9 h 30 **Presentation of the results obtained in the European project ReStar (Jean-Pierre Erauw)**

Goal of the project: updating of some EN test standards in the field of refractories through detailed examination of the targeted test methods, inter-laboratory tests based on experimental plans, a collaborative approach involving the main European test laboratories recognized in the field of refractories

9 h 50 **Presentation of the results obtained in the PERMAREF pre-standard project (Sandra Abdelouhab)**

Goal of the project: revision of the standard on the determination of the permeability measurement of refractory materials

10 h 10 Coffee break

10 h 30 **Presentation of the results obtained in the pre-standard project RESISTRACT (Sandra Abdelouhab)**

Goal of the project: development of a new standard for the determination of the tensile strength of refractory materials at room temperature by splitting test

10 h 50 **Presentation of the future pre-standard project CHOTHERM (Sandra Abdelouhab)**

Goal of the project: revision of the standard for the determination of the thermal shock resistance of refractory materials

11 h 10 **Presentation of the ISO 5022 standard (Xavier Buttol)**

Sampling and acceptance testing

11 h 30 **Presentation of the ISO 2859 standard (Christine Kermel)**

Sampling procedures for inspection by attributes

11 h 50 **Closing of the morning session**

12 h 00 **Lunch**

14 h 00 **Visit of CRIBC**

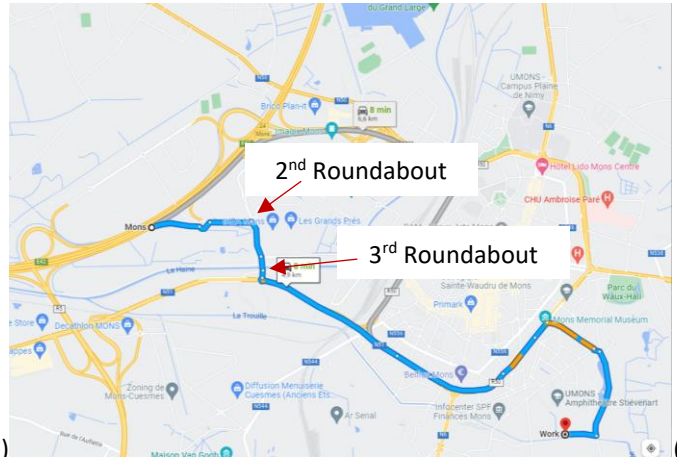
15 h 00 **Closing**

PLACE

CRIBC Access



(a)



(b)

By car:

Mons is about 60 km from Brussels on the E19-E42 highway (Brussels-Paris).

Coming from Brussels (a): take the Mons-Est exit, at the stop sign, turn right. At the second traffic light, turn right and then take the first street on the left (signposted INISMa): you are in the avenue Saint Pierre. Turn left just before the roundabout. Refer to the map for the end of the route.

Coming from France (b): take the exit 24 bis Mons-Ouest, take straightforward at the roundabout and at the 2nd roundabout turn right. At the 3rd roundabout turn left, take the ring, pass under the red bridge, take then the first exit, turn right at the second crossroad, at the roundabout go straightforward and then refer for the end of the route.

By public transport:

The city of Mons is accessible by train with, in some cases, necessary changes either in Brussels or in Lille (F).

More information on <http://www.sncb.be>. From the Mons train station, you can reach the CRIBC by using the urban bus circuit City'O: a bus every 15 minutes, stop HYON Hoyois or MONS Cornez.

REGISTRATION

Registration is free of charge but will only be considered by returning the registration form below by e-mail to: s.abdelouhab@bcrc.be. **The number of participants is limited to 50.**

■ Mrs ■ Mr

Name:

First Name:

Company:

Address:

.....

Tel :

Fax :

E-mail :

I wish to participate:

At the CVMD Standards Seminar "Standards in the field of refractory materials".

Lunch

Visit of CRIBC