



HARMONIZED SYSTEM  
REVIEW SUB-COMMITTEE

NR0368E1

-  
27<sup>th</sup> Session  
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O. Fr.

Brussels, 17 February 2003.

POSSIBLE CREATION OF A NEW NOTE TO CHAPTER 69  
TO DEFINE THE TERM "REFRACTORY"  
(PROPOSAL BY THE **AUSTRALIAN** ADMINISTRATION)

(Item III.A.15 on Agenda)

Reference documents :

NR0246E1 (RSC/25)  
NC0265E2, Annex D/9 (RSC/25 – Report)  
NS0074E1 (SSC/18)  
NS0080E1 Annex A/12 (SSC/18 – Report)

I. BACKGROUND

1. At its 25<sup>th</sup> Session, the Review Sub-Committee examined the **Australian** Administration's proposal to create a legal note defining the term "refractory" in order to establish a dividing line between the products of Sub-Chapters I (Refractory goods) and II (Other ceramic products) of Chapter 69.
2. According to the administration, this distinction, currently based exclusively on the Explanatory Notes with reference to a threshold of 1,500 °C, does not allow the Harmonized System to be applied uniformly inasmuch as, on the one hand, the Explanatory Notes have no legal force and, on the other hand, the interpretation of the term "refractory" in accordance with the ordinary meaning of the word is leading to the use of several criteria so that, depending on the author consulted, the threshold temperature may be 1,700 °C, 1,650 °C to 2,200 °C, 1,800 °F (or 1,000 °C) or 3,700 °F (or 2,050 °C).

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3. In Doc. NR0246E1, the Secretariat retraced the history of the reference to this temperature threshold in the Explanatory Notes, noting that it had first been fixed at 1,600 °C and later reduced to 1,500 °C. Then, taking commercial practice into account, it proposed that it be replaced by a threshold of 1,200 °C.
4. Following the discussions at the Review Sub-Committee's 25<sup>th</sup> Session, the principle of creating a new legal note was accepted, but a number of concerns were raised with respect to the threshold to be taken into consideration, that is to say, whether it should be the 1,500 °C limit contained in the Explanatory Notes or the 1,200 °C limit proposed by the Secretariat. The Sub-Committee therefore requested that the matter be re-examined at a later session so that administrations could consult their national industries and the Secretariat could undertake an in-depth study of the possible relationship between the quantitative criteria and the various ISO standards relating to ceramic goods.
5. It was intended that this study should lead to a proposal for a threshold that reconciled commercial practice with advances in technology and the relevant ISO standards. Moreover, Contracting Parties were invited to send the Secretariat their written views.

## II. VIEWS OF ADMINISTRATIONS AND SECRETARIAT COMMENTS

6. In response to the Review Sub-Committee's invitation, the Secretariat has received the views of the administrations of **Australia**, **Morocco**, **Canada** and the **European Community**, which diverge widely with respect to the choice of temperature threshold for defining refractoriness. **Australia**, supported by **Morocco**, favours the idea of creating a legal note in Chapter 69 and would be prepared to reduce the threshold from 1,500 °C to 1,200 °C.
7. For its part, without taking a definitive position on the question, **Canada** points out that, to judge from the Web site of the **Refractories Institute**, there is an extensive range of manufactured refractory products in a wide variety of forms for a broad spectrum of applications whose common denominator is the fact that they are intended for particular uses calling for very high temperatures (exceeding 1,000 °F or 538 °C).
8. As for the **European Community**, it notes, citing the **Liaison Office of the European Ceramic Industry**, that the existence of a multitude of definitions and standards for defining refractory goods makes it impossible to agree on a definitive temperature since both a temperature of 1,200 °C and one of 1,500 °C would exclude some refractories.
9. It concludes that, in these circumstances, a clear distinction must be drawn between the refractoriness of a product, that is to say, its behaviour in relation to softening at high temperatures, and the temperature at which a product is actually used. Refractories are defined in ISO Standard R 836-1968 as products whose pyrometric cone is equal to 1,500 °C or more, even though these products may, depending on their particular conditions of use, be used industrially at temperatures between 1,000 °C and over 1,600 °C. For this reason, the definition of these goods should be based not on the temperature of use but on the softening behaviour under specific conditions.
10. With a view to reconciling these differences, the Secretariat considered it advisable, on the basis of the ISO standards for defining refractoriness currently in force and the latest advances in technology, to submit this question to the Scientific Sub-Committee and invited it :

- (a) to examine the scope of the term “refractory” in the General Explanatory Notes to Chapter 69;
- (b) to provide guidance on whether or not it is necessary to change the threshold of 1,500°C currently in effect for distinguishing refractory ceramic products;
- (c) to express its views on a possible amendment of the legal text through the creation of a new note or of the Explanatory Notes in accordance with the above-mentioned proposal by the **Australian** Administration.

11. In the Secretariat’s opinion, apart from a pyroscopic resistance of the order of 1,500 °C or more, refractories must also possess, depending on their use, various properties relating to their mechanical strength, both when hot and when cold, and to their resistance to abrasion, chemical corrosion and thermal shock, etc.
12. If the melting point, that is to say, the resistance to weakening under a high temperature load, were taken as the reference point, the proposed new threshold of 1,200 °C would have the effect not only of infringing the ISO standards for refractories but also of complicating the management of the Nomenclature as a result of the transfer to Sub-Chapter I of goods with a refractoriness lower than that specified in the ISO standards in force. This would be inconsistent with the objective assigned to this study by the Sub-Committee at its 25<sup>th</sup> Session, namely, reconciling the threshold to be adopted with the ISO standards and with the advances in technology.

### III. OPINION OF THE SCIENTIFIC SUB-COMMITTEE

13. The Scientific Sub-Committee endorsed the observations made by the Secretariat in paragraphs 15 to 28 of Doc. NS0074E1, noting that :
- (a) the 1,500 °C threshold specified in the Explanatory Notes for defining refractories is based on the relevant ISO standards,
  - (b) the temperature at which refractories are used is not a property sufficiently well defined to form the basis for their classification, it being their softening behaviour under specific conditions that constitutes a definite property for determining the threshold of refractoriness.
14. Accordingly, the Scientific Sub-Committee unanimously agreed not to recommend the creation of a legal Note in Chapter 69, taking the view that :
- (a) the current provisions in the legal text, especially Note 1 to Chapter 69, and the Explanatory Notes supporting the ISO standards in force, were clear enough to define refractory products and a new legal Note would consequently change nothing in terms of the application of the Nomenclature in this respect;
  - (b) the proposed amendment to the legal text indicating a certain threshold would raise the problem of determining not only the threshold but also the appropriate method of defining it.

IV. CONCLUSION

15. The Review Sub-Committee is invited to rule on this matter, taking into account the views expressed by the Scientific Sub-Committee in agreeing with the Secretariat's reasoning in Doc. NS0074E1, that any change to the legal text, or to the Explanatory Notes, would tend to create rather than solve problems, thereby making the Nomenclature more difficult to apply.

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