Sub-chapter I

GOODS OF SILICEOUS FOSSIL MEALS OR OF SIMILAR SILICEOUS EARTHS, AND REFRACTORY GOODS

GENERAL

This sub-Chapter covers, whether or not they contain clay :

(A) **In heading 69.01 ceramic goods** obtained by the firing after shaping of siliceous fossil meals or similar siliceous earths such as kieselguhr, tripolite or diatomite (mostly falling in heading 25.12), or of silicaobtained by the incineration of certain vegetable products (e.g., rice boll ash). These materials are usually mixed with binders (such as clay or magnesia) and sometimes with other substances (e.g., asbestos, hair, sawdust, coal dust).

These articles are usually very light weight, and their porous structure makes them excellent heat-insulators for use in building, for the lagging of gas and steam piping. Some of these goods are also used as refractory products in the construction of ovens, industrial furnaces, steam generating boilers or other industrial plant and for other applications where lightness of the material, low thermal conductivity, as well as heat resistance, are desired. Others are used as heat-insulators for working temperatures of less than 1,000 °C.

(B) **In headings 69.02 and 69.03 refractory goods**, i.e., fired articles having the special property of resisting high temperatures as met in metallurgy, the glass industry, etc. (e.g., of the order of 1,500 °C and higher). According to the particular uses for which they are intended, refractory articles may also need to withstand rapid changes of temperature, be either good thermal insulators or conductors, have a low coefficient of thermal expansion, be porous or dense, resist the corrosive effects of products with which they come into contact, have a good mechanical strength and resistance to wear, etc.

However, to fall in heading 69.02 or 69.03 as refractory goods, articles must not only be **capable** of resisting high temperatures, they must also be **designed** for high temperature work. Heading 69.03 would therefore include crucibles of sintered alumina, but textile machine thread guides of the same material would fall in heading 69.09 since they are designed for clearly non-refractory uses.

The main types of refractory goods are :

(1) High alumina refractories based either upon bauxite, mullite or corundum (sometimes mixed with clays) or on kyanite, sillimanite or andalusite (aluminium silicates) mixed with clays, or on sintered alumina.

(2) Alumino-silicate refractories (e.g., based upon fire-clay with some chamotte or grog).

(3) Silica and semi-silica refractories (based upon sand, crushed quartz, flint, etc., and bonded with clay or lime).

(4) Magnesite refractories based upon magnesite (giobertite), sea-water magnesia or dolomite; refractories based upon chromite or chromium oxide; chrome-magnesite refractories.

(5) Refractories based upon silicon carbide.

(6) Zirconium oxide or zirconium silicate refractories, usually agglomerated with clay; refractories based upon beryllium oxide, thorium oxide, cerium oxide, etc.

(7) Refractories based upon graphite or other carbon, usually agglomerated with pitch, tar or clay. (Articles of graphite or other carbon of a kind used for electrical purposes fall in **heading 85.45**.)

(8) Refractories based upon other materials, e.g., silicon nitride, boron nitride, aluminium titanate and related compounds.

Refractory materials are used mainly to line blast furnaces, coke ovens, petroleum cracking plants, glass, ceramic and other industrial furnaces, and in the manufacture of pots, crucibles and other plant for the chemical, glass, cement and aluminium and other metallurgical industries.

But headings 69.02 and 69.03 **do not cover** articles which, though sometimes described as refractory or semi-refractory, are incapable of withstanding industrial temperatures of the type described above. Such articles fall in the appropriate heading of sub-Chapter II.

69.01 - Bricks, blocks, tiles and other ceramic goods of siliceous fossil meals (for example, kieselguhr, tripolite or diatomite) or of similar siliceous earths.

This heading covers all articles made of the materials listed in the heading text, whatever their shape (e.g., bricks, blocks, slabs, panels, tiles, hollow bricks, cylinder shells, pipes), whether or not refractory.

The heading **excludes** :

(a) Light non-refractory bricks not containing siliceous fossil meals or similar siliceous earths (e.g., those made from bodies containing chopped straw, sawdust, peat fibre, etc., the organic matter having been burnt away during the firing process to leave a porous structure) (**heading 69.04**).

(b) Filter plates made from a body containing kieselguhr and quartz (**heading 69.09**).