Public Consultation on the inclusion in the Authorisation List of:
(Zirconia-) Aluminosilicate Refractory Ceramic Fibres

Addendum to the joint submission made by
EAA, Alunorf, Cd Reach, ECI, Pb Reach Consortium, Metallo Chimique, EPMF, WVM, Zn Reach, Saft

Specificities of the Precious Metals industry

This addendum is submitted to the attention of the relevant Authorities in the purpose of completing the comments jointly submitted by the EPMF with EAA, Alunorf, Cd Reach, ECI, Pb Reach Consortium, Metallo Chimique, WVM, Zn Reach, and Saft ("the joint submission") in the framework of the Public Consultation on prioritisation of 2 refractory ceramic fibres: Aluminosilicate Refractory Ceramic Fibres (Al-RCF) and Zirconia Aluminosilicate Refractory Ceramic Fibres (Zr-RCF).

The Precious Metals sector remains fully aligned with the position jointly submitted with the other associations and its members.

The Precious Metals sector deems necessary to extend the joint submission with information specific to its uses of these fibres. This information may not apply to other Metals' Associations.

The European Precious Metals Federation (EPMF), through its Precious Metals and Rhenium Consortium, represents 47 Member companies with activities and premises worldwide. (www.epmf.be)

I. Specific Precious Metals uses of Al-/Zr-RCF

Next to the uses detailed in the joint submission, the Precious Metals sector would like to notify that Al-/Zr-RCF are also used in the Automotive industry as

a) Wrapping/packaging material for autocatalyst substrate,
b) Structural enhancer /thermic stabilizer for autocatalyst substrate.

These specific uses do result in operating constraints that could so far only be met by Al-/Zr-RCF. Alternatives have and continue to be evaluated but, to date, no viable replacement materials have been identified. Companies in the Precious Metals sector are a critical component of the production chain, leading to the manufacture of complete automotive exhaust systems and will be involved in handling the previously mentioned substrates.

As detailed in the joint submission from the associated metals' industries, the Precious Metals sector is also using Al-/Zr-RCF as

- Insulator in high temperature oven,
- Refractory insulator in high temperature industrial furnace operating above 900°C, up to 1.600°C,
- Sealing between refractory and steel kettles, valves, …,
- Fillings /compensation of thermal stress (expansion) in induction furnace,
- Thermal insulation of electric equipment linked to furnaces in industrial processes.

Both fibres are used. However, Al-RCF seems to be found more frequently than Zr-RCF in the industrial applications, as far as the Precious Metals industry is concerned.

II. Fibres identification

Next to the questions raised in the joint submission with regards to uncertainties on RCF definitions (Title II.1 "Uncertainties on the definitions" of the joint submission), it is interesting to note that some downstream users of RCF in the Precious Metals industry cannot confirm which type of RCF is present in their applications, nor if any RCF is present, this information being poorly defined in the materials (technical specifications, SDS) provided by their supplier.

We suggest the Authorities to issue a communication fully clarifying the scope of the recommendation as it appears clearly that a part of the suppliers of RCF and of article-containing-RCF do not consider themselves impacted (and are therefore not involved or even aware of the on-going prioritisation process) when their Downstream Users understand they are impacted. This is a major concern, potentially ending with a complete disruption of the supply chain.

III. Alternatives to RCF

Originally, Al-/Zr-RCF were used to replace asbestos in high temperature applications.

Since then, the use of RCF in catalytic converters has seen attempts to substitute. Our members are unanimous in notifying that none of the assessments of alternatives made to date were sustainable.

Mostly, failure to substitute RCF is due to technical limitations of the alternatives at high temperature (> 900°C), the structural stability and insulation properties not being guaranteed for a duration matching with the requirements of industrial processes and manufactured products. Some tested substitutes do also have additional emissions interfering with catalyst activity data.

Any alternative should offer similar properties as RCF: chemical inertness, low thermal conductivity, low thermal transfer, low heat storage, high temperature resistance (up to 1.600°C), light weight allowing to reduce size of furnaces (increased ergonomics and energy efficiency), excellent electrical resistivity (increased worker safety), resistance to high flue gas velocities, versatile physical form for shaping to virtually any application.

One of the alternative is quartzite that may be technically sustainable (although limited evidence is available) but implementation has proven economically not feasible, increasing some operating costs by 800 %, causing a significant loss of operating efficiency and flexibility.

There is no resistance to substitute these RCFs, however, when alternatives are available that meet all the technical and economic requirements, as well as presenting improved hazard profiles. For example, substitutes, such as body soluble fibres and metal reinforced fibre ropes proved successful for lower temperature applications (< 900°C), and were quickly implemented by our Members.

IV. Worker exposure

Our Members were unanimous in notifying that worker exposure is controlled under normal operating conditions as RCF are mostly fully encapsulated. In some cases, open handling and/or open operations may take place with anticipated risk of exposure: precautionary measures are then established, comparable with those taken for maintenance and replacement.

Exposure during maintenance and replacement is controlled: all operations are executed by workers specially trained; wearing personal protective equipment and disposable clothes; in dedicated dismantling area (for catalytic converters) equipped with LEV; supported with workplace exposure measures. Waste is disposed to authorized treatment companies.

V. The impact of banning Al-/Zr-RCF

Today, without known alternatives meeting the minimum technical and economic conditions, the consequences of banning Al-/Zr-RCF would be:

For downstream users of automotive catalyst:

a) A mechanical instability of autocatalyst, known substitutes not being technically comparable,
b) A decrease in the efficiency of the catalytic converter with emission of harmful pollutants,

For downstream users of industrial high-temperature furnaces:

c) Obligation to dismantle and replace current equipment (furnaces) as their current design would not match a return to outdated technology (e.g. old insulator bricks, also compromising process cycle time and energy efficiency),
d) An important set back of companies' saving energy policies,
e) Lower operating safety, increased health risk and technical issues due to inefficient insulation resulting in potential shell temperatures rising, hot spots forming, liquid material breaking through,

For manufacturers, importers and downstream users of autocatalysts and furnaces:

f) Business disruption: loss /interruption of production, loss of competitiveness and market share, business shut down,
g) Very high cost, in resources, time and technology, that industry cannot support without planning years ahead.

Given these considerations, our Members are stressing the strict impossibility to substitute RCF as of the Sunset Date and in the several following years, no suitable alternatives being even suspected and operating durations of current equipment being counted in decade(s).

As conclusion, following this analysis made by our sector, meeting the conditions of an authorisation process will require a prolonged period of time for research and implementation of alternative measures (when/if discovered) and/or new operating equipment. It is also our opinion that applications at high temperature should be exempted from this authorisation process.