

EUROFER position paper on Alumino-silicate RCF-Alumino-silicate wool (ASW)

In relation to the recent ECHA's recommendation to prioritise (Zr) Alumino-silicate RCF (further referred to as amorphous aluminosilicate wool or ASW/RCF), for their inclusion in Annex XIV of REACH Regulation, EUROFER, representing the European steel industry, wants to call attention to the fact that, currently, these materials are one of the best solution for many industrial insulation needs to achieve, at a reasonable cost, the optimum process conditions to improve product yield, environmental and safety performance and energy efficiency in the European steel industry.

The cost of energy is one of the main competitiveness drivers for energy intensive industries like steel. ASW/RCF are key products to minimise the energy consumption and ensure a level playing field in terms of competitiveness. With energy costs up to 40%¹ of total operational costs (depending on the segment of the value chain), even a small % change in energy efficiency is significant for European steelmakers.

The steel industry uses ASW/RCF for insulation, fire protection for furnaces, heaters, linings for furnace doors and other significantly high-temperature applications (up to and sometimes above 1600°C). Due to their properties, these materials are also used in a number of niche areas where no other alternative currently exists that provide the same technical function while remaining financially viable, for example, high pressure steam mains (blast pipe) on a blast furnace because of their flexibility and durability.

Although traditional refractory materials are still available, the new lightweight structures within the steelmaking process designed for RCF/ASW cannot be adapted to cope with the extra weight volume of traditional materials (e.g. blocks or dense fibre board instead of blanket or low density board). Alternative materials have been investigated, but no suitable comparable material has been found that can withstand the high thermal and mechanical stresses and general harsh environment experienced in the steel production processes while maintaining a financially viable business. Moreover, the reduced performance of substitutes would increase the need to carry out regular maintenance programs, which would in turn negatively affect the competitiveness of the European steel industries not to mention the important investment that would require the replacement of the industrial installations whose service life is between 10 and 20 years and sometimes even longer. Existing alternatives, such as polycrystalline wools, may ensure the same functions (energy efficiency and lightweight material) but they are not fully available on the market from a quantitative point of view and it is not foreseen to be available in a near future either. In addition to this, their temperature range is not fully equivalent to RCF/ASW so substitutability has to be checked following a case-by-case approach.

A recently published study² focussing on the efficiency of Alumino-silicate RCF products will

¹ Source: Ecorys Study on European Energy-Intensive Industries - The Usefulness of Estimating Sectoral price Elasticities

² Sustainable Industrial Policy – Building on the Ecodesign Directive – Energy- Using Product Group Analysis/2. The study is available in the following link: http://eco-furnace.org/open_docs/043122753%20ENTR%20Lot%204%20Final%20Report%20v6.pdf

feed the European Commission's future proposal on ecodesign requirements for industrial ovens. The study recognises that Alumino-silicate RCF products are one of the most energy efficient insulation materials available and that for many applications substitution is technically not possible. Moreover, it also highlights that some of the existing alternatives cannot be used in some type of furnaces whilst others, because of the higher price, would create a disadvantage position for the user towards non-EU competitors who are not subject to Authorisation obligations, therefore, supporting our earlier statement. The study concludes that "if alumina silicate wool (ASW/RCF) could not be used, EU energy consumption would increase very significantly". The study also takes account of the research that is currently being carried out on workers who produce and handle RCF, with no evidence that these materials caused cancer. Therefore, since the classification could directly impact the energy consumption of furnaces in Europe, the study recommends that the available toxicity evidence is re-evaluated.

Consequently, the use of large weight and volume traditional refractory materials would lead to a regression of technology while at the same time, for the reasons mentioned above, would increase the energy use and therefore the CO₂ footprint. Therefore, RCF/ASW remain as one of the best solutions to achieve the EU climate and energy targets and allow the continued innovation into lower CO₂ emissions and efficient steel production.

In relation to workers protection, over a period of many years, employees in the steel industry have been aware of the potential hazard of the aforementioned materials via product labelling and safety data sheets. Existing legislation such as the Chemical Agents Directive (CAD) and Carcinogens Mutagens Directive 2004/37/EC (CMD), promotes the substitution of such materials and, at least, via a thorough risk assessment, the control of exposure in the workplace via the hierarchy of control. In accordance with the requirements set under the article 4 of CMD, the steel industry is currently replacing these materials as far as technically and economically feasible. However, as mentioned before, to date, RCF/ASW remains the best option for a number of applications. Worker protection is required when working with such materials before and after use. A number of member states have also established binding national occupational exposure limits (OELs) as another function to control exposure.

Another aspect to be taken into consideration is the volumes considered to estimate the use of RCF/ASW in the annex XV dossier and in the scoring approach. According to ECHA's updated prioritisation approach³, the annual volume supplied in the EU to uses not exempted from the Authorisation requirement is taken as basis for scoring. Regarding RCF/ASW, the draft results of the 5th prioritisation reads that "*the entire volume is within the scope of Authorisation.*" Meanwhile, RCF/ASW is most often used in the industry in the form of articles (e.g. sheets, bricks, blankets, rolls, modules). Article 56 of REACH regulation reads that Authorisation only covers "*the use(s) of substance on its own or in a preparation or the incorporation of the substance into an article.*" As a consequence, the use of RCF/ASW in the form of articles by the industry is not submitted to Authorisation. Therefore it could be said that the score attributed to the volume criteria is largely overestimated with respect to the factual amounts of RCF's potentially concerned by Authorisation and effectively in-use in the steel industry. The global score of this substance should be much lower to reflect this situation, meaning that these substances would likely not be prioritised vs. other substances.

³ ECHA, *General Approach for Prioritisation of Substances of Very High Concern (SVHCs) for Inclusion in the List of Substances Subject to Authorisation*, version 28 May 2010.

While the whole production of RCF/ASW mixtures and articles in the EU will be concerned by the Authorisation process, end-uses of the substance, once processed into shapes, would not be submitted to it, and those represent in our industry the vast majority of the volumes. Therefore, the Authorisation process does not appear as an efficient risk management option to address the use of RCF/ASW. This option is contrary both to the principle of useful effect (“effect utile”) of EU legislation and to the principle of proportionality. It seems neither fully relevant nor appropriate in terms of potential risk and regulatory effectiveness.

To conclude, EUROFER believes that more emphasis has to be put on the improvement of the existing risk management tools rather than imposing additional burdens that will be inefficient for the purpose of protecting the human health and the environment. EUROFER considers that by further regulating substances that are already heavily regulated and controlled or removing the use of such materials from the European market will not only create a negative impact on our own industry but many others at the manufacturing level plus many downstream users in the supply chain as well as do impacting the health of the workforce. Therefore, we call for:

- **The evaluation of the recent studies and evidences related to the hazard identification of these substances as the on-going controversy on the current classification should be clarified before further regulatory measures are taken.**
- **The use of appropriate risk management options analysis with stakeholder contribution to ensure the correct control of occupational risk.**
- **The removal of ASW/RCF from the prioritisation process due to the fact that there are existing regulatory Risk Management Measures (RMM) in place to control exposures in the workplace which largely eliminates risks to the downstream users.**
- **The adoption of a binding OEL at EU level based on SCOEL recommendation as a relevant alternative RMM measure.**
- **True consideration into the wider impacts of reduce thermal efficiencies such as increased energy consumption, higher CO₂ emissions and greater energy demand.**