

CARE and Passive Exposure

CARE programme

In 1996, ECFIA, the European association of High Temperature Insulation Wool (HTIW) producers began to develop and implement the Controlled And Reduced Exposure (CARE) Programme as an important part of its Product Stewardship Programme (PSP). The CARE Programme consists of workplace monitoring, workplace exposure assessments and study of workplace controls. It supports employers to proactively minimise fibrous dust exposure and thus protect workers' health.

In the majority of cases, workplace monitoring is carried out where workers actively use or work on HTIW, with each type of work assigned a specific functional job category (FJC)¹. It recently became apparent that information is also needed on situations where HTIW has been installed and contained within equipment and processes, but not actively handled. Workers in such situations may be considered to be passively exposed to HTIW.

Passive exposure to HTIW dust

Recognising the need to quantify passive exposure to fibrous dust during worker activities, ECFIA has undertaken further investigations to examine situations where individuals are working in areas where HTIW products are contained within a closed process, or HTIW products are installed but are not being worked on. This includes where HTIW products are installed into equipment within an industrial process that is producing other end

products and materials, such as metals, ceramics (tiles, sanitary ware, etc), glass, chemicals, etc.

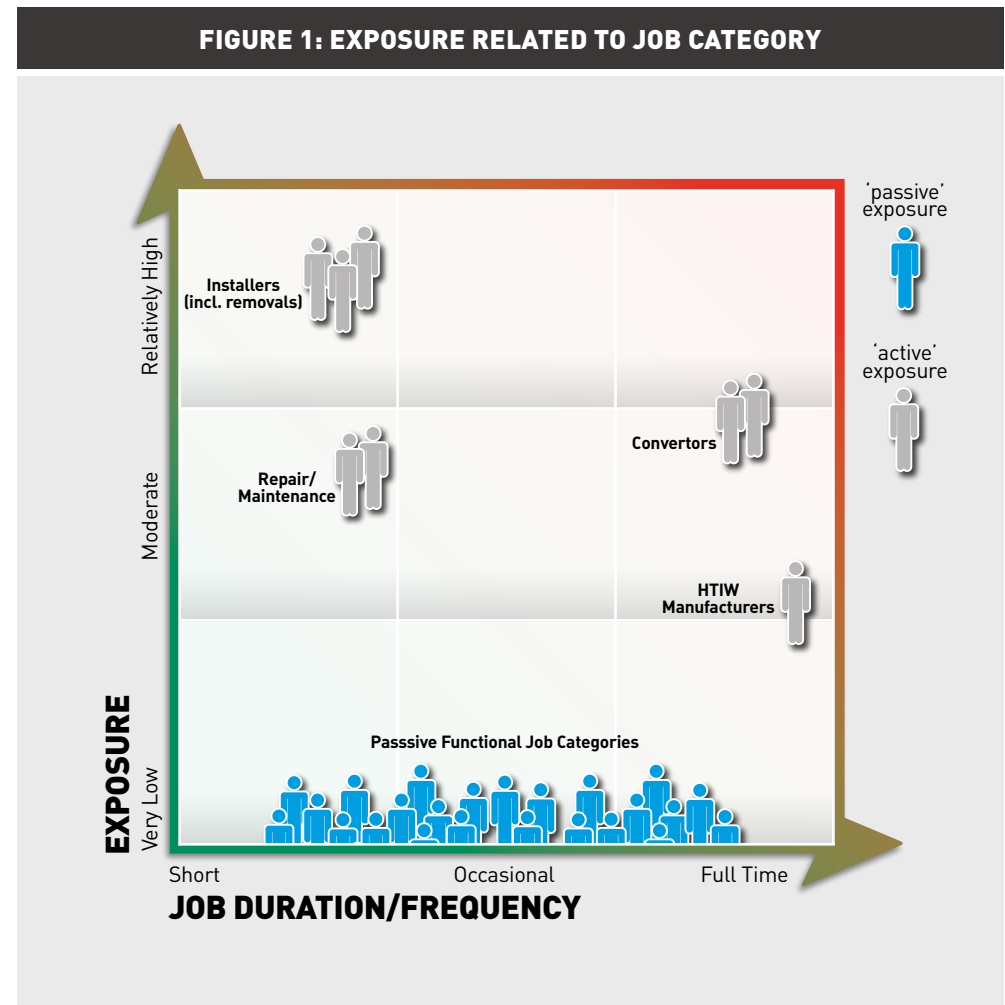
A number of FJCs may include tasks that involve active and/or passive exposures, but typically the following tasks can be considered the principal passive functional job categories (PFJC):

- Furnace operator
- Loading and unloading of kilns/kiln cars
- Working near a furnace/kiln
- Maintenance (conducting mechanical or electrical work on equipment containing HTIW but with no direct contact with HTIW)
- Production worker (minding a machine/process containing HTIW but involving no active contact with HTIW)
- Control room operator
- Laboratory operators (using equipment containing HTIW)
- Warehouse operator
- Transportation operator
- Administrator (office worker – non HTIW production site)

Warehouse operators, for example, would be considered likely to be subject to passive exposure if they drive forklift or pallet lift trucks inside a warehouse that is completely separated from the HTIW production plant and they do not visit the production process. Workers' exposures would not be considered to be 'passive' where they are still associated with HTIW production processes.

Figure 1 shows a typical distribution of the different job categories according to the amount (x-axis) and the intensity (y-axis) of their associated exposures. In contrast to the workplaces where

HTIW products are actively handled (active FJCs), all the passive FJCs demonstrate no exposure, or very low exposure levels that are close to the limit of detection.



¹ Functional Job Categories using the knowledge coming from the CARE Programme, ECFIA's experts were able to identify scenarios or applications where exposures to HTIW fibrous dust are likely to be encountered. Based on this knowledge, work with HTIW has been divided into a number of 'functional job categories' (FJC): HTIW production, finishing, installation, removal, assembly, modules, mixing/forming, auxiliary, and other.

This is supported by the passive exposure levels shown in **Figure 2**, which are all considerably lower than the 0.3 f/ml limit value recommended by SCOEL².

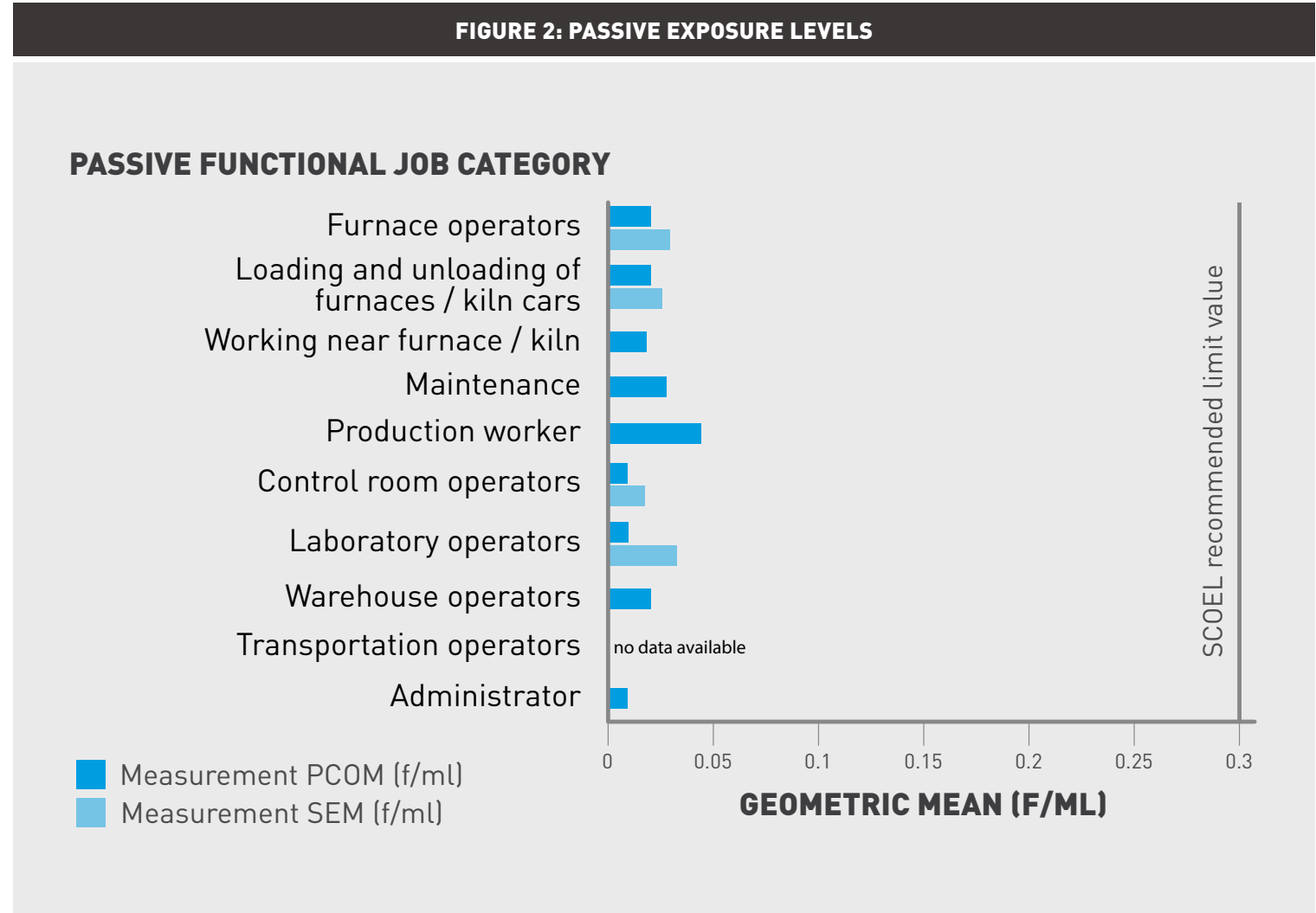
Conclusion

The CARE programme is designed to assist HTIW manufacturers and end-users in the evaluation, control and reduction of both active and passive workplace exposures. Recommendations stemming from the CARE Programme help to ensure proper control of the manufacture, storage, handling, use and disposal of HTIW products.

During ‘active’ handling of HTIW products, depending on the nature of the task and the products used, respirable fibrous dusts can be released into the air. However, when HTIW is installed or contained within a process (e.g. in a furnace), only extremely low fibrous emissions, if any, will occur.

The highest passive exposures tend to be found within workshops using machinery or equipment containing HTIW, but even here respirable fibrous dust concentrations are either not detectable or are very low and well below the SCOEL recommended exposure limit.

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² SCOEL/SUM/165, Recommendation from the Scientific Committee on Occupational Exposure Limits for Refractory Ceramic Fibres, <http://www.ser.nl/documents/55669.pdf>