



# CARE GUIDANCE

RECOMMENDATIONS ON BEST PRACTICE

**LEVEL 3**

## Installation of HTIW products



# INSTALLATION OF HTIW PRODUCTS

## INTRODUCTION

This is a level 3 document in the ECFIA CARE Guidance series and should always be read in conjunction with the level 1 document "Working with HTIW – Effective Risk Management".

## WHAT IS THE CARE PROGRAMME?

ECFIA's Controlled And Reduced Exposure (CARE) Programme is an important part of the Product Stewardship Programme. It allows employers to proactively minimize fibrous dust exposure and thus protect workers' health.

## WHAT ARE THE CARE GUIDANCE DOCUMENTS?

These documents form a comprehensive library of information on the safe handling and use of HTIW products. They have been written by industry experts and are designed to give customers of ECFIA members helpful information to put in place effective controls to minimise exposure to airborne fibres. This series of documents will progressively grow as new documents are produced.

**Level 1 guidance document:** "Working with HTIW - Effective risk management"

**Level 2 guidance documents:** Risk management measures applicable to HTIW

**Level 3 guidance documents:** Examples of specific applications

## WHAT IS INSTALLATION

"Installation" refers to large scale installation of HTIW products into industrial process equipment, for example furnaces.

## DUST EXPOSURE

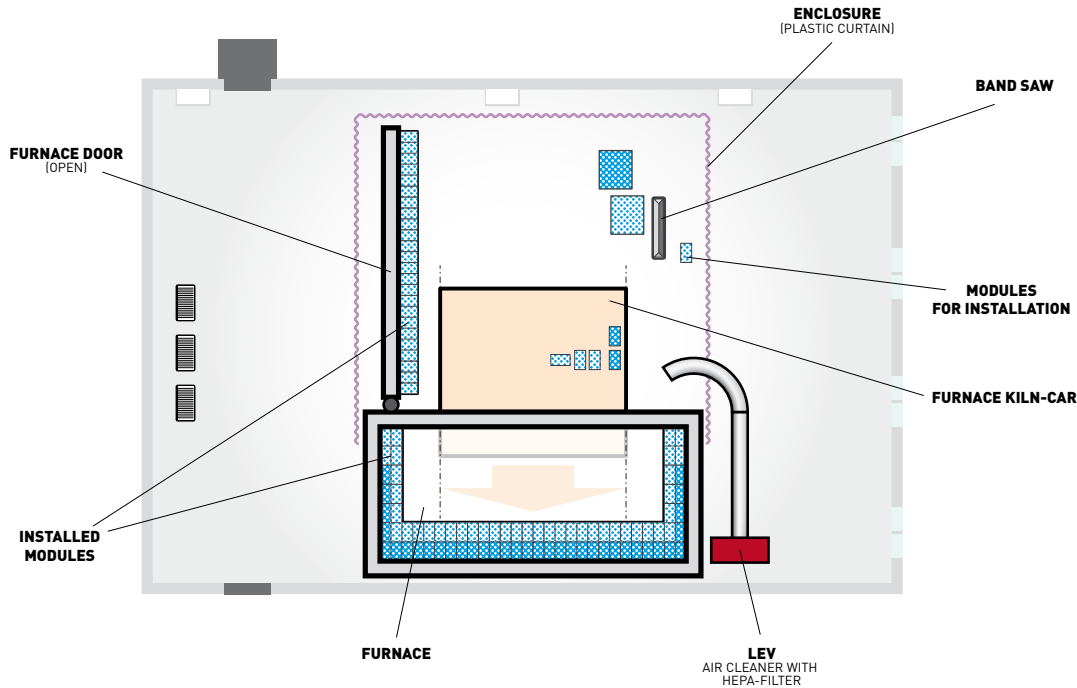
Release of fibrous dust during installation is caused, for example, by the act of pushing a module under pressure against the metal pins of the anchor (refer to photos 9 & 10). Fixing modules and blankets in corners and other inaccessible places can in particular lead to increased fibrous dust release.

Another possible source of fibrous dust exposure is shaping the HTIW materials (blankets, modules, boards) to ensure a good fit – using, for example, band saws, rubber hammers, sandpaper and knives.

The dust released during these activities must be adequately controlled to ensure operators' safety; this document highlights some of the ways in which this can be done.

**ENCLOSURE**

In order to avoid spreading dust to other areas, it is necessary to segregate the areas in which the dust is being generated from adjacent workplaces. Band saws used for the final finishing tasks should be equipped with LEV and if necessary the machine should be enclosed. (see Level 2 Guidance "Local Exhaust Ventilation (LEV) Systems for High Temperature Insulation Wool (HTIW)")



**Negative pressure**

By using an air cleaner system the dust will be reliably Enclosure and effectively captured and collected. In this system an enclosure around an area of dust release is constructed, including an air extraction through a HEPA filter creating negative pressure in the workspace and preventing release of dust into adjacent area.

Sketch: Enclosed work area with negative pressure/vacuum



Fig. 1: Enclosed work area with filter system



Fig. 2: Installation in the work area



Fig. 3: Negative pressure enclosure – air cleaner with HEPA filter



Fig. 4: After installation - industrial furnaces (with modules and bricks)

*Fig. 5: Installation of prefabricated modules**Fig. 6: Enclosed saw*

“FFP 3 MASK AND PROTECTIVE CLOTHING”

*Fig. 7: Installation of blankets and modules**Fig. 8: Cement refractory bricks*

HTIW installation is generally a high exposure activity. The application of relevant health and safety measures during installation is required, **especially personal respiratory protection with P3 filter, and protective clothing**. Blankets and modules should be handled carefully. If possible, pre-fabricated modules/blanket pieces should be used, and a sharp blade used if cutting is required. The off-cuts must be handled gently and carefully placed into plastic bags and sealed. All materials for disposal must be kept in a segregated area in sealed and labelled bags. A mobile HEPA-vacuum cleaner with appropriate accessories and fittings is the preferred method for removing fibrous dust from module surfaces and for cleaning the work station.

## INSTALLATION OF MODULES



Fig. 9: Attach metallic comb-anchor



Fig. 10: Fix anchor system



Fig. 11: Installation of the next module



Fig. 12: Press module onto pins

## CLEAN UP FOLLOWING INSTALLATION

After installation, the dust that remains on the surface of the machined parts and on the installation equipment represents a further risk of exposure. Handling can stir up the settled dust and create an exposure issue for the worker. In order to prevent this, handling should be kept to a minimum and workers should take extra care to try not to disturb settled dust. In order to capture the dust and prevent the worker from being exposed, the use of a mobile dust extraction unit fitted with a HEPA-Filter should be considered.