REFRACTORY CERAMIC FIBER

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CANADA HSE GUIDELINE

ConocoPhillips Canada

Purpose: To provide guidance on safely performing work with potential exposure to Refractory Ceramic Fiber (RCF).

NOTE: This guideline is only applicable for low disturbance work such as inspections. Higher disturbance activities such as the installation or removal of RCF insulation must be performed by a qualified contractor.

NOTE: Contractors performing refractory work will supply their own equipment and follow their own procedures.

Pre-Work Activities

When planning work near or around RCF, complete the following pre-work activities:

1. Engage the CPC Industrial Hygiene representative as needed.
2. Verify HEPA filters have been maintained or replaced and operational.
3. Establish a decontamination tent/area.
4. Place warning signs at the work area (Danger – Respirable Fibers – Authorized Personnel Only)
5. Complete work area assessment and cover fixed objects with sheeting as needed (e.g. electrical, mechanical and process systems).

- Limit use of power tools unless fitted with dust collector / HEPA filters.

PPE Requirements

In addition to basic PPE requirements, the following PPE is required for entry into RCF restricted areas:

- Mono goggles combined with a half-mask respirator with P100 (HEPA) cartridges or full-face respirator with P100 (HEPA) cartridges.

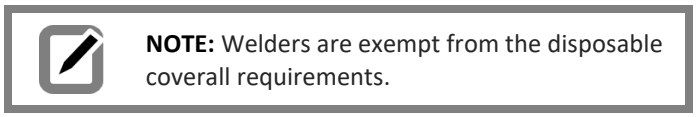
CAUTION: If RCF disturbance is expected to be high, re-evaluate respiratory protection.

Half mask – 1-5 f/cc

Full face – 2-25 f/cc

Supplied air – >25 f/cc

- Disposable (e.g., Tyvek ®) coveralls, snug fitting at the neck, wrists, and ankles.
- Disposable gloves or gloves that can be decontaminated.
- Impervious, cleanable boots (rubber, neoprene, nitrile) or boots with disposable covers.



Confined Space Entry with RCF

For work activities inside of a Confined Space completed by CPC personnel or contractors that do not specialize in RCF work, the following applies:

- Minimize disturbance and avoid contact with RCF.
- Do not use water inside heaters (OTSGs) to keep RCF wet as it may react with contaminants and/or cause corrosion.
- At Surmont, removal of man doors from the OTSGs have the highest potential for disturbance of RCF. Once removed, tarp the door and if repairs are needed, re-tarp the door after repairs to limit disturbance of the fibers.

Decontamination Process

A decontamination process and appropriate decontamination area must be established prior to starting RCF work. This includes:

- Establishing a two-sided decontamination tent with a “clean” side and “dirty” side. Both sides must be large enough for workers to move freely while decontaminating.
- Post the decontamination process and procedures at the tent.
- Welders exempt from using disposable coveralls shall follow the decontamination process prior to vacating the work area.

Clean-up and Waste Management

At job completion:

- Double bag all waste in labelled poly bags or other suitable sealed containers.
- Damp wipe the outside of the disposal bags.
- Clean the work area and remove loose material (pick up, spray/wet, sweep, and/or HEPA vacuum).
- Dispose of RCF as indicated on the Safety Data Sheet (SDS).