

Facial hair.

Being clean shaven is important to achieve respiratory protection.



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Leak Path Human Hair 125 micron GAP

Face

Airborne Contaminants can range from several microns (1 micron = 1/1000th mm) down to fractions of a micron. As the diagram to the left illustrates a human hair has an average thickness of about 125 micron. A single hair width will hold the facepiece off the face like a steeple and create enough space for the micron-sized particles, gases and vapours to leak past.

Be clean shaven at the beginning of your work shift. Respirators are disposable...your lungs are not!

Particulates, gases and vapours can bypass facial hair that is preventing an adequate seal and still expose the wearer.

- Studies have shown that the presence of facial hair can significantly reduce the expected levels of protection.
- Face seal leakage has been shown to increase from 20 times to 1000 times in the presence of facial hair.*
- At least a 330 fold drop in protection was experienced by bearded wearers.**
- Tight fitting respirators need to seal tightly to your face to create a reliable seal.
- Gaps in this face seal let the contaminated air inside your respirator.
- Respirator filters cannot clean the air that bypasses the filter and is leaking through the face seal.
- Even a day or two's growth of stubble/ moustache/ sideburn can be enough to significantly interfere with respirator fit and allow leak paths for contaminants to make their way straight into your lungs.

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Facial Hair and respirator fit: a review of literature, Stobbe et al 1988
Effect of facial hair on the face seal of negative pressure respirators, Sketvedt & Loschiavo

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