

Fit of Filtering Facepiece Class 3 (FFP3) Respirators Part 3: Suitability of FFP3 for Real Faces

Abstract (Shirley Frost)

Tight-fitting respirators must fit the wearer well if they are to provide the expected protection. The potential for achieving a good fit is challenged by the diverse range of shapes and sizes which the human face can exhibit. FFP3 are available in a range of models theoretically giving scope for fitting a wide range of faces. This paper is concerned with how well FFP3 are able to fit real faces and has been developed from the findings of a study comparing fit test methods. Nine FFP3 models, with a diverse range of design features, were tested on the 25 different volunteers. Selection of FFP3 for volunteers was randomised, with no attempt made to match volunteer with FFP3; not every FFP3 was tested on every volunteer. Four different fit test methods were directly compared and the fit test results were mapped according to volunteer face size. Subjective comments on the design of these FFP3 were also noted. Two of the FFP3 models passed with all four fit test methods on 40% and 50% of the volunteers respectively, another three models passed in all four fit test methods with at least one volunteer. The remaining four models did not pass with any volunteer in all four fit test methods. The full range of available design features were present overall in the range of FFP3 which performed well, and those that performed poorly; lack of attention to the detail of the design was identified as the reason for poor fit of some FFP3. Some areas for improvement in design and product standards are identified.