

## P2 Respirators vs N95 Respirators.

There are 3 types of respirator classification systems that users in Australia may encounter;

- The first, and most important for Australian users, is Australian/New Zealand Standard AS/NZS 1716:2012 “Respiratory Protective Devices”,
- The United States National Institute of Occupational Safety and Health (NIOSH) classification,
- European standards (EN) for respirator classification.



It is possible that products sold in Australia may have marking or instructions that indicate the products classification to any or all three systems. In relation to particulate filtering respirators, the terms P2 and N95 have most commonly caused confusion to users.

Under AS/NZS 1716, P2 particulate filtering respirators must have a filter efficiency of at least 94% when tested with Sodium Chloride aerosol. The particle size of this aerosol has a mass median diameter of 0.3 to 0.6 microns with a range of particles in the 0.02 to 2 micron size range. This aerosol is delivered to the filter at a flow rate of 95 litres/minute.

NIOSH classified N95 particulate filtering respirators must have a filter efficiency of at least 95% when tested against ~0.3 micron Sodium Chloride aerosol at a flow rate of 85 litres/minute. The use of N95 respirators is restricted to use in atmospheres free of oil aerosols.

P2 respirators classified under the EN system undergo Sodium Chloride aerosol testing similar to AS/NZS 1716, but have additional filter efficiency testing with paraffin oil aerosol that must also meet the minimum 94% filter efficiency to be classified as P2. In Europe disposable or maintenance free respirators that incorporate the filter into the entire facepiece are known as filtering facepiece (FF) respirators. The FF prefix is used in front of the particulate classification and users would see the term FFP2.

As described above there are slight differences in airflow rates and particle sizes used in the various laboratory tests of respirator filter efficiency around the globe. These variations tend to accommodate the difference in minimum filter efficiencies (95% v 94%) between the classification systems. In practice these differences result in virtually no impact on the level of respiratory protection provided to wearers.

All 3M respirators meeting P2 requirements of Australian/New Zealand Standard AS/NZS 1716:2012, or P2 requirements of EN standards will also meet the requirements of the NIOSH N95 specification.

Other factors such as the amount of air leakage between the respirator and face seal (respirator fit) and the amount of time the respirator is worn (wear time) also come into play when assessing respiratory protection. All three factors (Filtration, Fit and Wear Time) need to be considered when looking at application of respiratory protection options, not just the filter classification.

For any respirator related issues, please contact your local 3M PSD representative on 136 136, or call the 3M TechAssist line on 1800 024 464.

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