



Welding Hazards Respiratory Protection Selection Guide

To help you select the correct 3M™ Respirator, please use the table below which has been designed to highlight a selection of the hazards you may encounter and the suggested 3M respirator.*

3M Respirators		General Workshop	Small Area / Close Proximity	Confined Space	9925 / 9928 ●	Airstream™ Respirator AH9, AH11	Dustmaster™ Respirator DM6	Dustmaster™ Respirator DM16	Dustmaster™ Respirator DM167	Dustmaster™ Respirator DM9, DM11	Breathe Easy™ Plus Respirator BE9, BE11**	Breathe Easy™ Plus Respirator BE16**	Breathe Easy™ Plus Respirator BE167**	Airstream™ Respirator AH18, AH20***	S-200 Airfied Respirator fitted to 3M mask***●	CABA Δ.#	3M™ Flowstream™ regulator with 3M™ QRS headtop ***.#	3M™ Vortex cooler or Vortemp™ heater + 3M QRS headtop ***.#
Process	Metal																	
MMA	Mild Steel	◆																
MMA	Mild Steel		◆															
MMA	Stainless Steel/Aluminium/Copper Galvanised Zinc /Cadmium Plate	◆																
MMA	Stainless Steel/Aluminium/Copper Galvanised Zinc /Cadmium Plate		◆															
MIG/MAG	Mild Steel	◆																
MIG/MAG	Mild Steel		◆															
MIG/MAG	Stainless Steel/Aluminium/Copper Galvanised Zinc /Cadmium Plate	◆																
MIG/MAG	Stainless Steel/Aluminium/Copper Galvanised Zinc /Cadmium Plate		◆															
Flux Core	Mild Steel	◆																
Flux Core	Mild Steel		◆															
Flux Core	Stainless Steel/Aluminium/Copper Galvanised Zinc /Cadmium Plate	◆																
Flux Core	Stainless Steel/Aluminium/Copper Galvanised Zinc /Cadmium Plate		◆															
TIG	Any Metal	◆																
TIG	Any Metal		◆															
Arc air gouging	Any Metal	◆																
Arc air gouging	Any Metal		◆															
Gas Welding & Cutting	Any Metal	◆	◆															
Any Process	Any with non leaded paint	◆	◆															
Any Process	Leaded paint	◆																
Any Process	Leaded paint		◆															
Any Process	Any Metal			◆														

■ Indicates suitable level of respiratory protection.
 General Workshop = An area where there is low potential for fume and gas build up. Small Area/Close Proximity = Potential for build up of high level of fume and gas and adequate ventilation is essential. Confined Space = Potential for oxygen deficiency. (less than 19.5% by volume – 3M definition).
N.B. When working with degreasing agents please ensure the materials to be welded are dry and free from solvents. When Oxides of Nitrogen are above the Occupational Exposure Limit (OEL) then supplied air respiratory protection must be used.
 * This guide is only an outline. It is designed to help focus on the most appropriate respirators in the 3M range for particular applications. It should not be used as the only means of selecting a respirator. Details regarding performance and limitations are set out on the respirator packaging and fact sheets.
 *** A range of filters is available for these respirators. Please contact 3M for advice on appropriate selection.
 ... These respirators are constant flow airfied respirators.
 ● These respirators will also require a welding shield.
 Δ CABA = Compressed Air (includes positive pressure airline and SCBA)
 # QRS = Quick Release Swivel



Metalworking & Mechanical Engineering Respiratory Protection Selection Guide

To help you select the correct 3M™ Respirator, please use the table below which has been designed to highlight a selection of the hazards you may encounter and the suggested 3M respirator.*

3M Respirators		9913 / 9914	8822 / 9322	9925 / 9928	8835	4251 / 4255	4277	6000 Series**	7000 Series**	Airstream™ Respirator AH1, AH4, AH4A	Airstream™ Respirator AH7	Dustmaster™ Respirator DM4, DM110, DM112	Breathe Easy™ Plus Respirator BE110, BE1, BE4**	Visionair™ Airfired Respirator 500 / 510	3M™ Flowstream™ regulator + 3M™ QRS headtop#	S-200 Airfired Respirator fitted to 3M mask	3M™ Vortex cooler or Vortemp™ heater + 3M™ QRS headtop#	CABA ^Δ
Application	Hazard																	
Molten Metal handling	Fine particles & metal fume			■	■			■	■		■	■	■		■			
Electro-plating	Acid gases						■	■	■				■	■	■	■	■	
Degreasing	Solvent vapour					■		■	■				■	■	■	■	■	
Machining	Metalworking fluids (oil mists)				■			■	■			■	■	■	■	■	■	
Grinding	Fine Particles		■	■	■			■	■	■		■	■	■	■	■	■	
Polishing	Fine Particles		■	■	■			■	■	■		■	■	■	■	■	■	
Finishing	Fine Particles		■	■	■			■	■	■		■	■	■	■	■	■	
Paints – brush applied	Solvent vapour	■				■		■	■				■	■	■	■	■	
Paint spraying – ‘single pack’	Paint mist and solvent vapour					■		■	■				■	■	■	■	■	
Paint spraying – ‘two pack’	Isocyanates													■	■	■	■	
‘Rubbing down’ paint work	Fine particles	■	■	■	■			■	■	■		■	■	■	■	■	■	
Paint stripping	Solvent vapour (not dichloromethane)					■		■	■				■	■	■	■	■	
Powder coating	Fine particles		■	■				■	■					■	■	■	■	
Adhesive – brush applied	Solvent vapour	■						■	■				■	■	■	■	■	
Adhesive spraying – ‘single pack’	Mist and solvent vapour					■		■	■				■	■	■	■	■	
Adhesive spraying – ‘two pack’	Mist and solvent vapour (isocyanate based)													■	■	■	■	
Polyester resin – hand mixing	Fine particles & solvent vapour	■				■		■	■				■	■	■	■	■	
Polyester resin – spraying	Mist and solvent vapour												■	■	■	■	■	
‘Finishing’ cured epoxy resins	Fine particles	■	■	■				■	■	■		■	■	■	■	■	■	
Entering Confined Spaces	Oxygen deficiency/high hazard level															■	■	■

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All solvent vapours are assumed to have good warning properties (ie smell/taste at levels below OEL).

** A range of filters is available for these respirators. Please contact 3M for advice on appropriate selection.

Δ CABA = Compressed Air Breathing Apparatus (includes Positive Pressure Airline and SCBA).

QRS = Quick Release Swivel (new unique headtop breathing hose connection).