

Construction Dust

An **Expert Guide**

Legislation
Construction Dust
Partnership
British Occupational
Hygiene Society (BOHS)

Occupational Health
Statistics
The Risks
Extraction

Face Fit Testing Types
Respirators
Powered Air
Dust Removal





contents

| | |
|---------------------------------------|-------|
| INTRODUCTION | |
| LEGISLATION | 2 |
| CONSTRUCTION DUST PARTNERSHIP | 3 |
| BOHS | 4 |
| OCCUPATIONAL HEALTH STATISTICS | 5-6 |
| CONSTRUCTION DUST CAUSES | 7 |
| CONSTRUCTION DUST DISEASES | 8 |
| THE RISK | 9 |
| ASSESS THE RISKS | 10 |
| DUST MONITORING | 11 |
| MANAGING THE RISK | 12 |
| EXTRACTION PRODUCTS | 13 |
| RESPIRATORY PROTECTION CONSIDERATIONS | 14 |
| FACE FIT TESTING TYPES | 15-16 |
| DISPOSABLES | 17-20 |
| REUSABLE | 21-25 |
| POWERED AIR | 26-28 |
| DUST REMOVAL | 29-30 |



Arco is the UK’s leading supplier of personal protective equipment, workwear and workplace safety products offering a world-class range of over 170,000 products.

As Experts in Safety we are widely recognised as a provider of specialist advice through our sales office network and this is further supported by our training and consultancy division. We reach our customers through an extensive product catalogue, interactive website, local Sales Offices and a network of over 40 trade counters. We pride ourselves on providing customers with great availability, performance and price.

Founded in 1884 Arco has a heritage spanning four generations. With traditional family values at the heart of the business we pride ourselves on our core values: respect, hard work, enterprise and excellence in reputation. We fully subscribe to the ETI’s Nine Principles Base Code and have fully incorporated the internationally recognised code of labour practice into our own ethical policy. In 2007 Arco was the first distributor in our industry to become a member of the Ethical Trading Initiative (ETI) and in 2010 we became a member of Sedex, the Supplier Ethical Data Exchange. We continually support local communities and charities donating in excess of 1% of pre tax profits annually.

As we are members of the BSIF Registered Safety Suppliers Scheme you can be confident that we will supply safety equipment which is genuine and compliant with the relevant standards and regulations. The BSIF monitor and regulate members of the scheme by conducting regular standards audits.



Stay Safe and Protected from Construction Dust

As Experts in Safety we are committed to helping you keep your work place a safe and healthy one. Every year thousands of workers are affected by breathing airborne dust which is hazardous to their health.

Cutting, grinding and sanding materials such as concrete, sand, tiles and wood create dusts that have serious implications for your workforce’s health. Breathing in this dust on a regular basis, over a long period of time can have a debilitating effect on a person’s life. It can take several years before any symptoms of ill health become apparent.

This Expert Guide has been designed to help minimise the health risk from construction dust by providing guidance and advice on helping you manage and maintain a safe working environment, ensuring your business is meeting its legal obligations and best practice.

Legislation

UK Law

The Health and Safety at Work etc. Act 1974 states it is the duty of every employer or self-employed person to provide and maintain, so far as is reasonably practicable, a safe working environment and ensure the health, safety and welfare of all their employees and anyone else who may be affected by the company’s activities.

Due to the properties found in construction dust, the Control of Substances Hazardous to Health (COSHH) Regulations 2002 stipulate that a risk assessment must be completed detailing how the risk from the hazardous substance will be prevented or controlled and what measures are in place before the work commences.

Ireland Law

For Ireland, The Safety Health and Welfare at Work Act, 2005 (S.I. No 10 of 2005) requires the provision of a safe place of work; this applies to employees, employers and the self employed. Section 19 of the Safety, Health and Welfare at Work Act 2005, requires that employers and those who control work places to any extent must identify the hazards in the work places under their control and assess the risks to safety and health at work presented by these hazards. The results of any risk assessments should be written into the safety statement.

*Source: HSE: Respiratory Disease: <http://www.hse.gov.uk/construction/healthtopics/respiratory.htm>
HSE: Construction Information Sheet No 36 (Revision 2) - <http://www.hse.gov.uk/pubns/cis36.htm>
HSE: Five steps to risk assessment - <http://www.hse.gov.uk/pubns/indg163.pdf>
HSA: Safety, Health and Welfare at Work Act 2005, <http://www.irishstatutebook.ie/2005/en/act/pub/0010/sec0008.html#sec>

Construction Dust Partnership (CDP)



Arco are proud members of the Construction Dust Partnership (CDP), the partnership is a joint construction industry and Health and Safety Executive (HSE) collaboration directly involving many organisations.

The aim of the partnership is to raise awareness of managers, supervisors and workers, to ensure effective control measures are always put in place and followed. The CDP provides industry with advice, information and guidance that can be used to help raise awareness about the risks from construction dust and what needs to be done to protect workers.

For more information visit, <http://www.citb.co.uk/cdp>



BOHS, the Chartered Society for Worker Health Protection



What is occupational hygiene?

Occupational hygiene is a unique and highly skilled discipline which uses science and engineering to control or eliminate workplace hazards and create healthier workplaces, in the most efficient and effective ways.

With good occupational hygiene science and practice, occupational health risks can be eliminated or at least brought under control. It is possible, today, to be a healthy miner; the ill health effects of working with or near asbestos, and how to avoid them, are well understood; silicosis amongst pottery workers can be prevented. These are just some of the major achievements of occupational hygiene.

Today's workers however continue to be exposed to health hazards such as harmful dusts, which can cause debilitating and often fatal diseases such as cancer, COPD and asthma. These risks will always need to be properly understood and managed, through good occupational hygiene practice.

When do you need the services of an occupational hygienist?

Employers are required by law to appoint "competent persons" to assist them in complying with their statutory duties in health and safety. Within large organisations, occupational hygienists often play this role as regards regulations on, for example, hazardous substances, asbestos, lead and noise. Where specialist expertise is not available within the organisation, employers often contract occupational hygiene support services from external consultants. Those with professional qualifications in occupational hygiene are uniquely suited to this task.

Finding a qualified occupational hygienist

BOHS, the Chartered Society for worker health protection, is the only professional society representing qualified occupational hygienists in the UK.

The Society's Faculty of Occupational Hygiene sets professional standards and is the only UK examining board for qualifications in occupational hygiene which are recognised internationally. It also awards the coveted title of 'Chartered Occupational Hygienist' to practising members who are qualified at the highest level.

BOHS publishes The Directory of Occupational Hygiene Consultants which lists consultancies able to provide qualified and experienced occupational hygienists and specialist occupational hygiene support services, with coverage throughout the UK.

For further details, see <http://www.bohs.org/OHServices-directory/>



Occupational Health Statistics

The Health and Safety at Work etc. Act is based on the principle that those who create risks to employees or others in the course of carrying out work activities are responsible for controlling those risks. Under the main provisions of the Act, employers have legal responsibilities in respect of the health and safety of their employees and other people who may be affected by their undertaking and exposed to risks as a result. Employees are required to take reasonable care for the health and safety of themselves and others.

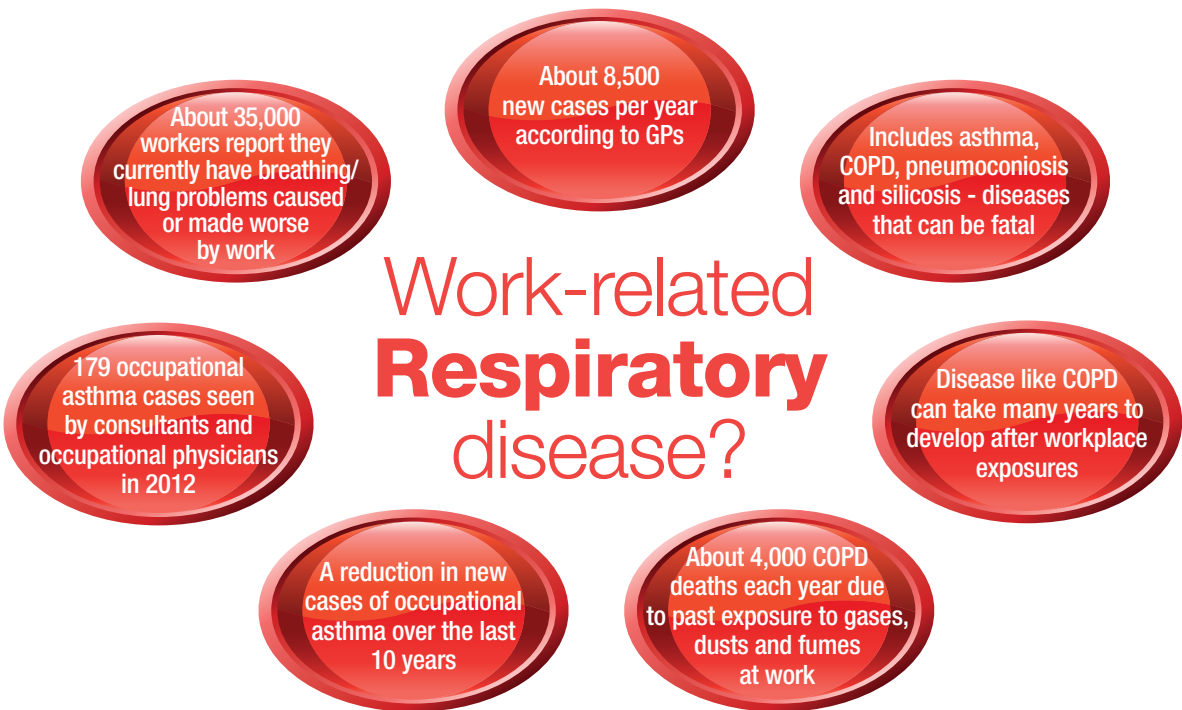
III Health

In 2012/13 the HSE released their national statistics which identifies the number of people who have been affected by ill health while at work:

- 1.1 million people who worked during the last year were suffering from an illness (long-standing as well as new cases) they believed was caused or made worse by their current or past work.
- 0.5 million of these were new conditions which started during the year*.
- A further 0.7 million former workers (who last worked over 12 months ago) were suffering from an illness which was caused or made worse by their past work*.
- 2,291 people died from mesothelioma in 2011 and thousands more from other occupational cancers and diseases such as COPD.

*Data refers to 2011/12 – Labour Force Survey data for ill health is not available for 2012/13.

What do we know about...



Source:
Health & Safety Executive: Annual Statistics Report for Great Britain - <http://www.hse.gov.uk/statistics/overall/hssh1213.pdf>
Health & Safety Executive: At a glance guide to Health and Safety Statistics in Great Britain -<http://www.hse.gov.uk/statistics/at-a-glance.pdf>



When risks are not controlled they can have devastating effects on a person's life. Frequently breathing in harmful levels of construction dust, can cause an array of illnesses such as cancer, asthma and Chronic Obstructive Pulmonary Disease (COPD).

Cancer:

- The most common forms of cancer leading to death are lung cancer and mesothelioma
- The leading cause of cancer death is occupational exposure to asbestos
- Silica is one of the other major causes of occupational cancer
- The construction industry has the largest burden of occupational cancer, contributing to 3,500 cancer deaths and 5,500 cancer registrations each year

COPD:

- COPD is common in later life: it is likely that over a million individuals currently have the disease in Great Britain and there are over 25,000 deaths each year
- The largest cause of COPD is smoking, but past exposure to fumes, chemicals and dusts at work will have also contributed to causing many currently occurring cases
- Other research shows that about 15% of COPD is likely to be work-related. This suggests there could be around 4,000 occupational COPD deaths each year in Great Britain
- Work place exposures likely to contribute to COPD include various dusts (including, coal, grain, and silica) as well as certain fumes and chemicals (including welding fume, isocyanates, and polycyclic aromatic hydrocarbons)

Asthma:

- Occupational asthma is an allergic reaction that can occur in some people when they are exposed to substances
- These substances are called 'respiratory sensitisers' or asthmagens. They can cause a change in people's airways, known as the 'hypersensitive state'
- The substances listed below are examples of materials that are often found on a construction site and may cause occupational asthma:

Chromium (VI) compounds: Compounds present in stainless steel welding fume and cement and used in electroplating

Some hardwood dusts: A general term covering a wide variety of wood dusts. There are 12,000 species of trees of which 11,000 are hardwoods. About 40 species are implicated in causing occupational asthma

Some softwood dusts: A general term covering a wide variety of wood dusts derived from mainly coniferous trees. Occupational exposure to cedar dusts is associated with the development of asthma

Source:
HSE: A guide to health and safety regulation in Great Britain - <http://www.hse.gov.uk/pubns/hse49.pdf>
HSE: Cancer - <http://www.hse.gov.uk/statistics/causdis/cancer/>
HSE: COPD - <http://www.hse.gov.uk/statistics/causdis/copd/copd.pdf>
HSE: Asthma - <http://www.hse.gov.uk/STATISTICS/causdis/asthma/asthma.pdf>
HSE: About Asthma - <http://www.hse.gov.uk/asthma/about.htm#statistics>

Construction Dust Causes

Breathing in construction dust is a significant health risk and may cause long term serious damage to a person's life, many people working in the construction industry are not aware of the dangers. Regularly breathing in construction dust over a long period of time can cause life changing lung diseases. Typically it takes several years for the effects of exposure to construction dust to develop and when symptoms arise it may mean permanent disability or early death.



Construction sites are known to generate high dust levels due to the tasks involved. Over 500 construction workers are believed to die from exposure to silica dust every year. The amounts needed to cause this damage are not large. The amount of silica dust that would result in a person exposed to the legal unit is shown below next to the penny.



Silica dust

The law requires companies to make sure staff are breathing in levels of Silica dust well below the amount illustrated here.

Before any dusty activities begin, such as those listed below, the type of construction dust which may be generated should be considered. Working methods and procedures for preventing airborne dust arising in the first place should be top priority. If airborne dust cannot be avoided, then working methods for minimising the amount of airborne dust generated and breathed in must be followed. Personal protective equipment must only be considered as a last resort, after all other avenues for control of dust exposure have been explored.

A specialist advisor, such as an occupational hygienist, may be required to provide guidance on the level of risk posed by particular dusts and the appropriate control measures for specific circumstances.

- Common dusty activities:**
- Wall chasing
 - Grinding and sanding
 - Block and stone cutting
 - Drilling
 - Sweeping floors
 - Cutting of softwood, hardwood and wood based products
 - Movement of rubble during site clearance
 - Demolition
 - Carpentry

HSE: Construction Dust - <http://www.hse.gov.uk/pubns/cis36.pdf>

Construction Dust Diseases

When control measures are not in place, regular exposure to construction dust can lead to a range of respiratory diseases.

- The four main types of construction dust which can be found on a construction site are:
- **Silica dust:** Concrete, mortar and sandstone (also known as respirable crystalline silica or RCS)
 - **Wood dust:** Softwood, hardwood and wood based products like MDF and plywood
 - **Other construction dust:** Gypsum (plasterboard), limestone, marble and dolomite.
 - **Demolition dust:** In addition to the above this may contain insulation fibres or allergenic substances, such as bird droppings

Breathing in these types of dust can have a lasting affect on a persons health. The types of illnesses related to breathing in construction dust are:

Silicosis:

Silicosis is an incurable lung disease caused by inhaling large amounts of silica dust, usually over a period of many years.

If silica dust has entered the lungs it can cause inflammation and over time lead to areas of hardened and scarred lung tissue (fibrosis).

Lung Cancer:

Exposure to silica dust has been linked to a risk of developing lung cancer.

Chronic Obstructive Pulmonary Disease (COPD):

COPD is an obstruction of the airways, the airways become inflamed and narrowed. COPD is predominantly caused by smoking; however exposure to harmful dusts can also bring on the onset of COPD even if the person does not smoke.

Occupational asthma:

Occupational asthma is directly linked to the working environment and is usually the result of exposure to a certain substance known as respiratory sensitisers. For example, wood dust is a respiratory sensitiser and, if inhaled, can cause asthma symptoms. If the exposure continues, this can lead to severe chronic asthma. Asthma symptoms can take weeks, months or even years to develop, depending on the person and the substance.

Source:

Silicosis - <http://www.nhs.uk/conditions/silicosis/Pages/Introduction.aspx>

Lung Cancer - <http://www.nhs.uk/Conditions/Cancer-of-the-lung/Pages/Causes.aspx>

COPD - <http://www.nhs.uk/Conditions/Chronic-obstructive-pulmonary-disease/Pages/Causes.aspx>

Occupational Asthma - <http://www.asthma.org.uk/knowledge-bank-living-with-asthma-occupational-asthma>

HSE: Respiratory Diseases - <http://www.hse.gov.uk/construction/healthtopics/respiratory.htm>



The risk

The suppliers of construction materials should have material safety data sheets (MSDS) which will provide you with the identification of the substance, use of the substance, hazard identification, primary routes of entry and human health risks together with some advice on exposure controls/personal protection. This will help determine the control measures that must be in place before the substance is used. It remains important, however, to ensure the particular circumstances of work are considered, as the general advice given on a material safety data sheet may not be sufficient for the work actually being carried out.

Formed products for example brick or concrete may not have data sheets and consideration should be given to the type of dust generated from the activity.



To check for asthmagens, read labels and look at safety data sheets

Source:
HSE: Respiratory Diseases - <http://www.hse.gov.uk/construction/healthrisks/respiratory2.htm>

When a task is planned, the nature of materials or product needs to be evaluated, the risk assessment should identify the risk involved and the types of control measures to be adopted. For example, cutting a kerb or concrete paving slab will generate a significant amount of dust. There is no way of determining every type of dust that will be generated, however silica will normally be present in this type of product. In accordance with good occupational hygiene practice, the risk assessor, should start by considering elimination or prevention of airborne dust. If generation of airborne dust cannot be avoided, then the assessor should then look at other engineered measures to reduce the amount of airborne dust, for example, by use of a suitable dust extraction unit. Finally, as a last resort, the assessor may prescribe respiratory protective equipment, for example a P3 particulate mask, to control residual risks and ensure maximum protection. It is very important, in the first instance, to consider how the airborne dust can be eliminated, reduced or controlled to prevent the risk of respiratory disease. Again, the advice of an occupational hygienist may be required in deciding the most appropriate control options.

| Substance | % Silica content |
|---------------------------------|------------------|
| Brick | Up to 30 |
| Concrete, cement, mortar | 25 to 70 |
| Tile | 30-45 |
| Sandstone, gritstone, quartzite | More than 70 |
| Granite | Up to 30 |
| Sand, gravel, flint | More than 70 |
| Slate | Up to 40 |
| Flint | More than 80 |

Assess the risks

Identifying materials with the potential to create airborne dust should form part of the risk assessment. Appropriate control measures can then be selected to protect employees and others who may be affected.

Firstly, potentially hazardous materials need to be identified and secondly, to whom they may cause harm. Consideration should be given to whether the general public, bystanders etc. may be affected.

Attention should be given to the following:

- What the task involves, including equipment and tools
- The environment / work area
- How long will the task take
- Frequency of the task throughout the day

Persons conducting the risk assessment need to be trained and competent to do so.

Control the dust risk

Once the hazard has been recognised, reasonably practicable control measures must be developed according to the risk and applied to each task to ensure the health and safety of your employees and any others.

Before the work commences, as a first priority, establish whether the generation of airborne dust can be prevented or reduced. If the dust risk cannot be eliminated, then the following measures may need to be enforced to reduce the risk:

- Try using a less risky material; the safety data sheets will highlight the content, for example silica-free abrasives
- Organise work to reduce the exposure to the dust, for example using less powerful tools, introduce water or on-tool dust extraction
- At times, water or on-tool dust extraction will not provide sufficient control, as a last resort Respiratory Protective Equipment (RPE) will need to be issued
- Ensure employees are trained and are competent to use the dust control measures and RPE
- Face fit testing is required for all tight fitting face pieces
- Health surveillance is about having regular checks on workers' health to check that control measures are working. The surveillance identifies early signs of ill health - acting on the results helps ensure that adequate control measures are being followed

Source:
HSE: Respiratory Diseases - <http://www.hse.gov.uk/construction/healthtopics/respiratory.htm>
HSE: Construction Information Sheet No 36 (Revision 2) - <http://www.hse.gov.uk/pubns/cis36.htm>
HSE: Five steps to risk assessment - <http://www.hse.gov.uk/pubns/indg163.pdf>
HSA: Safety, Health and Welfare at Work Act 2005, <http://www.irishstatutebook.ie/2005/en/act/pub/0010/sec0008.html#sec>



Record and review findings

The aim of the risk assessment is to ensure that all the control procedures are appropriate to the risk, effective and properly implemented.

Make sure that all employees are informed about the procedures and ensure they are trained and are competent; this includes the planning, supervision and the supply and maintenance of equipment.

Regular checks are required to ensure that the control measures stay in place and are being properly used. It is the employer's responsibility to have someone in place that is competent to do this.

It is best to review your risk assessment on an ongoing basis to formally check that the changes are working and identify any improvements that need to be made. This should be done at regular intervals determined by the nature of the work, if there is an incident or if the task or materials change.

Dust monitoring

The risk assessment may require measurement of workers' exposure to dust (personal dust monitoring). The measurements may be needed to investigate whether control measures need to be introduced to protect your workforce, or to ensure that control measures are adequate.

Regular dust monitoring may also be required to check adequate dust control is being maintained.

Monitoring of workers' personal dust exposure is a specialist activity that should only be carried out by properly trained and qualified staff. Dust exposure can vary greatly from person to person, from job to job and from day to day; dust monitoring and analysis techniques vary according to the types of dust being encountered.

Monitoring must therefore be carefully planned, and results interpreted by persons familiar with interpreting occupational hygiene data and workplace exposure limits. This is important to ensure that correct decisions are taken on risk and the required level of control.

Professional occupational hygiene support will ensure that dust monitoring is carried out in a meaningful way and helps protect workers' health.

Casella General Dust Monitoring Kit

Ideal for a wide range of occupational health sampling applications this kit will allow you to sample the air for most generally occurring dusts in accordance with MDHS 14/3. Samples are taken onto pre-weighed GFA filters which are sent for weighing. The kit comprises a Tuff Personal Air Sampling Pump, rapid charger, plastic cyclone, cassettes, 10 pre-weighed GFA filters, rotameter and stand.

- Robust and reliable for harsh environments
- Fast battery charge with convenient drop-in charger
- Removable NiMH battery pack
- Excellent real-time flow control
- Status alarm
- Digital display

Approved to EN 1232.

Intrinsic safety approvals
Ex ia IIB T3 Ga (Pending).

Ref: 4T6000 – Dust Monitoring Kit



Casella Microdust Pro Monitor

The Microdust Pro is a rugged, hand-held, data logging instrument for the real-time detection of airborne dusts, fumes and aerosols.

A quick, easy to use instrument giving the user additional qualitative data which cannot be gained by gravimetric air sampling methods alone.

- Real-time graphical display of dust levels within the workplace
- Simple icon driven user interface
- Unique removable sampling probe
- Rugged design for harsh environments
- Multi-language operation
- Unique on-site calibration insert
- Environmental enclosure available for boundary monitoring applications

Ref: 4T8000



Arco Training and Consultancy

COSHH Regulations 2002 stipulate that if there is the presence of hazardous dust which is harmful to the health of your employees, then a risk assessment needs to be conducted detailing how the hazardous substance will be prevented or controlled and what measures need to be in place.

Arco Training and Consultancy is the specialist arm of Arco that is dedicated to helping customers achieve and maintain, full health, safety and environmental compliance.

Arco Training and Consultancy can provide a range of occupational hygiene services to help identify health hazards and appropriate control measures in the working environment with:

- Hazard monitoring testing
- Legislation conformance
- Face fit testing
- Health and safety training
- Risk control
- Risk assessments

We can visit your site and conduct a risk assessment, identifying who is at risk, measure the exposure levels and provide a detailed outline of how the risks need to be controlled and maintained.

For more information contact UK Tel +44 (0)1482 611 769 or email services@arco.co.uk
Ireland: Tel 01409 5000 or email services@arcosafety.ie

Managing the risk

Wherever possible, you must prevent your employees and the general public being exposed to hazardous dust. If the dust cannot be eliminated, then you must adequately control the risk.

The risk assessment may determine a wide range of control measures that need to be in place before any work on the site commences. A common form of dust control is local extraction - you will often see it referred to as Local Exhaust Ventilation (LEV).

LEV is an engineering control system which reduces exposure to airborne contaminants such as dust, mist, fume, vapour or gas in a workplace by extracting them away from the point of emission. The principle is to "capture" and remove the airborne contaminant **before** it enters the breathing space of the worker.

Most LEV systems including on-tool extraction, but not all, have the following features:

- **Hood:** carefully designed and positioned to capture and contain the dust cloud, and prevent it entering the worker's breathing space
- **Ducting:** This carries the contaminant from the hood to the filtration unit.
- **Air cleaner or arrestor:** This filters or cleans the extracted air. Not all systems need air cleaning.
- **Air mover:** The 'engine' that powers the extraction system, usually a fan.
- **Discharge:** This releases the extracted air to a safe place.

Successful capture and removal of dust will only be achieved if the correct extraction unit is used in the right way. The design and location of the hood is crucial to the effectiveness of the LEV system. The hood must be of a size that can contain the dust cloud, it must be positioned as close to the source of dust emission as possible and the extraction rate must be high enough to capture and remove the dust **before** the worker breathes it in.

You can use extraction units interchangeably on some tools but the specification of the unit must be suitable for the tool and the task. A H (High) or M (Medium) class unit will be required, these units provide effective and reliable extraction capability and are fitted with low-flow indicators.

There are a variety of LEV designs and techniques available, each of which have advantages and disadvantages. Selection and application of LEV should be made with due regard to good occupational hygiene practice.



The Management of Health and Safety at Work Regulations 1999 require an employer to make appropriate arrangements for the effective planning, organisation, control, monitoring and review of the preventative and protective measures, which includes LEV systems.

Before use, the employer must ensure that appropriate training is provided and employees are competent to certify that the equipment is operated, maintained and stored correctly, this includes following the manufacturer's instructions. On every occasion, inspection of the unit is required before it is used.

Under COSHH 2002 it stipulates that an annual examination and testing of the LEV is required.

Source:

HSE: Controlling airborne contaminants at work, A guide to local exhaust ventilation (LEV) - http://www.hseni.gov.uk/hsg258_controlling_airborne_contaminants_at_work.pdf

HSE: Clearing the air, A simple guide to buying and using local exhaust ventilation (LEV) - <http://www.hse.gov.uk/pubns/indg408.pdf>

HSE: CIS69 - Controlling construction dust with on-tool extraction - <http://www.hse.gov.uk/pubns/cis69.pdf>

Extraction Products (LEV)

Filtercart

Ideal for light extraction applications, available in 110 and 240 volt with two or three metre extraction arms. Ideally suited for light applications including sanding, grinding and welding.



Filterbox

Filterbox is heavier duty, versatile and durable enough to solve most dust and fume extraction problems. It can be used fixed or mobile. The unit comes with a three metre arm. Units can be combined for multiple bench applications. Ideally suited for welding, grinding and most construction dust based activities.



Portable High Vacuum

We offer a range of fixed and mobile systems to offer a complete solution to meet most needs. High vacuum refers to the high vacuum and low airflow used to catch, transport and filter fumes and dust. The units can be combined with accessories to allow:

- Extraction from hand held portable tools
- Extraction from nozzles usually used in welding and grinding
- Connection to cleaning equipment helping to keep floors and equipment tidy



For more information on our range or to organise a site survey to discuss your extraction requirements: Email: hdf@arco.co.uk Tel: +44 (0)1482 383280

Respiratory Protection Considerations

The laws governing the control of harmful substances in the workplace, state that you should only use Respiratory Protective Equipment (RPE) after you have taken all other reasonably practicable measures to prevent or control exposure. By going through the risk assessment, you can determine whether the use of RPE is necessary in your work place.

Dust monitoring will help determine whether hazardous dust has been adequately removed through other means such as extraction. If the exposure is reduced, but a percentage is still present, then appropriate RPE will need to be introduced.

When considering RPE, attention should be given to the following:

- Type of hazardous dust
- Whether the equipment is right for the task and adequately reduces the exposure
- The needs of the wearer
- Other personal protection being worn
- The type of work and the work place environment
- Face fit test requirements

Remember, RPE must only be used as a last resort where there are risks to health and safety that cannot be controlled by other means.

When supplying RPE, it is the duty of the employer to select the correct RPE, ensure it is suitable for the task, provide training on the equipment and ensure the equipment is stored, cleaned and maintained correctly. Regular inspection is also a requirement to make sure it is fit for purpose.

Anyone using RPE will need to be informed why they need the equipment, when and how it should be used, repaired or replaced and if there are any limitations. Face fit testing is also a requirement to ensure it is suitable for the individual.

Protection Factors

RPE has an assigned protection factor (APF); the APF number rating indicates how much protection the RPE is capable of providing. Construction dust generally requires an APF 20 (FFP3 particulate filter), this rating means the wearer only breathes in one twentieth of the amount dust in the air.

Particulate Filter

When working with construction dust a particulate filter is required. The particulate filter traps and holds the particles. The filter (or the facepiece it is built into) will be marked with the letter P (for particle) and a number to indicate efficiency, or the level of protection provided:

- P1 = Low efficiency
- P2 = Medium efficiency
- **P3 = High efficiency**

As a minimum it is recommended that a P3 filter is used when working with construction dust.

RPE used at work must be manufactured in accordance with the Personal Protective Equipment Regulations 2002. All of Arco's RPE conforms to all relevant European standards and carries the CE mark. The CE marking signifies that the protection satisfies the necessary requirements and in some cases will have been tested by an independent body.

Source: HSE: Respiratory Protective Equipment at Work: A Practical Guide HSG53 - <http://www.hse.gov.uk/pubns/priced/hsg53.pdf>

Source: HSA: A Guide to Respiratory Protective Equipment - http://www.hsa.ie/eng/Publications_and_Forms/Publications/Chemical_and_Hazardous_Substances/Respiratory%20Protective%20Equipment.pdf

Face Fit Testing Types

Respiratory Protection Equipment (RPE) is a control measure which must reduce exposure to as low as reasonably practicable and to an acceptable level. The RPE must be suitable for the task involved, environment and wearer.

To ensure that the selected RPE has the potential to provide adequate protection for individual wearers, the ACoPs supporting COSHH, CAR and CLAW stipulate that tight fitting RPE must be fit tested as part of the selection process. This will ensure inadequately fitting facepieces are not selected for use. Ill-fitting facepieces can create inward leakages of airborne contaminants.*

Arco Training and Consultancy

Arco Training and Consultancy is the specialist arm of Arco that is dedicated to helping customers achieve and maintain full health, safety and environmental compliance.

We have the largest number of Fit2Fit accredited face fit technicians in the UK. We also offer face fit testing to Ireland and offshore industries enabling us to carry out face fit testing on site to ensure the RPE selected is adequate, suitable for the environment and protects the wearer.

One type of respirator does not fit all, we will make sure the respirator is suitable for the wearer, it fits correctly and is suitable for the environment and contaminant.

It is vital that your employees understand why they need the equipment and when it should be used. Our individually structured training courses ensure that your employees have all the knowledge they need to work safely in a hazardous dust environment. Our RPE team are equipped to provide onsite accredited Fit2Fit face fit testing to certify that your employees are confident and competent to use the equipment correctly.

We can also offer Quantitative and Qualitative face fit training which will provide attendees with the skills and knowledge to achieve the requirements of the HSE guidance note 282/28 and carry out their own face fit testing.

This formal training will provide the grounding for the attendees to gain sufficient practical experience before applying for Fit2Fit accreditation.



*Source: Health and Safety Executive: Fit Testing of Respiratory Protective Equipment Facepieces, Version 6, 30/04/2013

Tight fitting face pieces and face fit testing

It is a requirement for all tight-fitting face pieces to be face fit tested. Having a good seal with the wearer's face is one of the barriers which stops the hazardous dust being inhaled.

Tight fitting RPE includes all filtering face pieces - disposables, half masks and full face masks. The only exception is a powered air system.

The face fit test will identify if the mask fits correctly, and matches the person's facial features.

Every time a tight fitting face piece is worn, remember the wearer must be clean shaven. Beards and stubble prevent a tight seal meaning the face mask will not provide protection.

Qualitative and Quantitative Face Fit Testing

There are two types of face fit tests these are qualitative and quantitative.

Qualitative face fit testing determines whether the fit is a pass or a fail by using the person's sense of taste and smell to detect leakage from the respirator. If the person can taste or smell the test irritant then the fit is deemed as a fail and the exercise will be repeated until a suitable respirator fits the individual.

Quantitative fit testing requires a portacount machine to measure the amount of leakage from the tight fitting face piece to determine whether the fit is a pass or fail. If failure to achieve a fit then a recommendation of an alternative product will be required. The test will need to be repeated until an appropriate respirator is found.

To conduct both types of face fit testing the individual must be trained and competent to do so.

Quantitative Face Fit Test

The HSE's approved code of practice (HSE 282/28) requires that all tight fitting respirators i.e. full face masks, half masks and disposables are face fit tested. Respirators are designed to reduce the concentration of the pollutant. Respirators can leak and most leakages occur around the face seal. The Portacount fit test equipment measures how much leakage occurs during normal usage, therefore poor wearing procedures or inappropriate equipment will be highlighted by the face testing protocol.

Arco can provide an on-site face fit test service which can include basic respirator training. We employ a team to ensure you choose the right level of protection.

Alternatively we can quote you for the supply of the Portacount apparatus and the required training.

For more information on Quantitative Face Fit Testing contact:

UK: Tel +44 (0)1482 611 769 or email services@arco.co.uk

Ireland: Tel 01409 5000 or email services@arcosafety.ie

Arco Qualitative Face Fit Test Equipment

A cost effective way to correctly face fit test tight fitting respirators.

Each kit includes:

- Robust hood
- Complete instructions in disk and hard copy formats
- Two nebulisers
- Sensitivity solution
- Bitrex test solution
- Compact, sturdy and portable presentation case

Ref: 1E1100 – Kit

Ref: 1E1200 – Face Fit Solution Pack of 6

Ref: 1E1300 – Sensitivity Solution Pack of 6



Disposable Masks

Face Fit Awareness

Guide to correct fitting of maintenance-free and disposable respirators:

- Always read and follow the manufacturer's instructions, fitting, hygiene, maintenance and storage
- Before wearing the disposable respirator for the first time, training and face fit testing must be provided
- Inspect the disposable respirator before fitting, check for dirt or damage, if any of these apply discard and replace
- Check compatibility with other personal protective equipment
- Every time a tight fitting face piece is worn, remember the wearer must be clean shaven. Beards and stubble prevent a tight seal meaning the face mask will not provide protection

WARNING!

JUST PUTTING IT ON IS NOT ENOUGH

FIT IT RIGHT!



Place mask in palm of hands with straps hanging free



Hold mask in position on face



Pull lower strap over head and place below ears on neck



Place other strap on crown of head above ears



Adjust noseband and ensure mask is tight on face



Make final adjustments and test fit of mask

CAUTION: Tight fitting respirators should only be worn when clean shaven.

Please note, these fitting instructions relate to the Arco Premium Disposable Valved Cupped Respirator. Please refer to other manufacturers fitting instructions for alternative masks.

Disposable Respirators

Our range of valved disposable respirator's provide P3 protection from hazardous dust. Disposable respirators are a convenient, easy-to-use, maintenance-free option, ideally suited to relatively short-duration applications.



Maintenance Free

Arco 10 Particulate Respirator Kit P3

The Arco 10 Particulate Respirator Kits offer the highest levels of protection and comfort while delivering outstanding value for money. Each pack is supplied with one reusable filter holder and 10 replacement filters giving flexibility in use and real savings compared to traditional disposable products.

- Wipe clean frame and easy filter replacement
- Exhalation valve helps keep you cool by reducing humidity and temperature
- Fully adjustable head strap ensures a comfortable and secure fit
- Preformed shape with no nose clip removes need for regular adjustment.
- Completely metal free
- Supplied in a re-sealable bag to keep product secure and clean
- Packaging made from recycled materials and less materials to dispose of after use
- Supplied in a 10 use pack with one holder and 10 filters

Approved to EN1827:1999+A1:2009 FMP3 NRD

Ref: 1A2100



Arco Premium P3 Disposable Valved Respirator

The Arco Premium disposable respirator has been specifically developed to improve wearer comfort whilst maintaining an excellent fit.

Completely metal-free fold-flat respirator featuring latest filter technology for reduced breathing resistance. Offers protection against hazardous construction dust.

- Exhalation valve reduces temperature and humidity within the respirator: low profile aids field of vision
- Preformed nose bridge with no nose clip means no need for regular re-adjustment
- Fully adjustable head strap enhances excellent fit
- Orange coloured mesh denotes P3
- Mesh shell retains shape and improves durability.
- Designed to fit a wide range of faces offering a great face fit pass rate
- Inner face seal means greater protection from particles while ensuring the very best face fit

Approved to EN 149:2001 FFP3 NRD

Ref: 1E3100 – Fold Flat. Pack of 20

Ref: 1E2500 – Cupped. Pack of 5



uvex silv-Air P3 Respirators

The uvex silv-Air C FFP3 respirators provide reliable protection against construction dust, mist and fumes with a high filtering classification. The exhalation valve with a 360° opening ensures very low breathing resistance for easy airflow exchange reducing the build up of heat and moisture inside the mask, particularly during strenuous activities.

- Densely woven filter fabric prevents solid materials passing through and internal layers are electrostatically charged ensuring hazardous materials adhere to them and not inhaled
- Soft material edges prevent uncomfortable pressure points for long-term comfort
- Molded, adjustable nose clip for easy customisation for an individual leak free fit
- Elastic cotton headband absorbs sweat and is easily adjustable giving a stable, even fit
- Soft flexible sealing lip increases wearer comfort whilst achieving a customised fit
- Designed to fit and work together with uvex eyewear, making wearing multiple items of PPE easier and more comfortable

Approved to EN149:2001 + A1 2009 FFP3 NRD

Ref: 1U0005 – Fold Flat. Pack of 15

Ref: 117200 – Cupped. Pack of 15



3M™ 8833 Valved Disposable Respirator

The 3M™ 8833 Respirator provides respiratory protection against higher levels of fine dusts. 3M high-performance respirator filter material combines effective filtration with low breathing resistance.

The respirator has a robust shell and cup design which conforms well to most face shapes and sizes and maintains its shape well during use, whilst the 3M™ Cool Flow valve reduces heat build up to offer comfortable protection, particularly in hot and humid conditions.

- Secure face fit and increased wearer comfort
- Reliable, effective protection against fine particulates
- Excellent fit over a wide range of face sizes
- Comfortable, light weight off-the-face design
- Convex shape, nose clip and twin-strap
- Soft inner face-seal ring
- Red colour coded straps denoting FFP3 protection level

Approved to EN149:2001 FFP3 RD

Ref: 116400 – Packs of 10



3M™ Aura™ 9332+ Disposable Flat-Fold Respirator

3M Aura 9332+ respirators feature the 3M™ Cool Flow exhalation valve which offers improved comfort in hot and/or humid environments and where work is physically demanding.

The respirator includes an embossed and sculpted top panel for improved compatibility and reduced fogging of eyewear and an innovative chin tab to improve the ease of fitting.

- Low breathing resistance filter technology
- Flat-Fold, easy to store, unique 3-panel design
- Accommodates facial movement for wearer comfort
- Individual hygienic packaging
- 3M Cool Flow exhalation valve
- Smooth inner cover-web and large soft nose foam
- Even-tensioned straps relieve pressure for a comfortable and secure fit
- Red colour coded straps denoting FFP3 protection level

Approved to EN149:2001 FFP3 NRD

Ref: 118600 – Packs of 10



3M™ 8835 Disposable Respirator

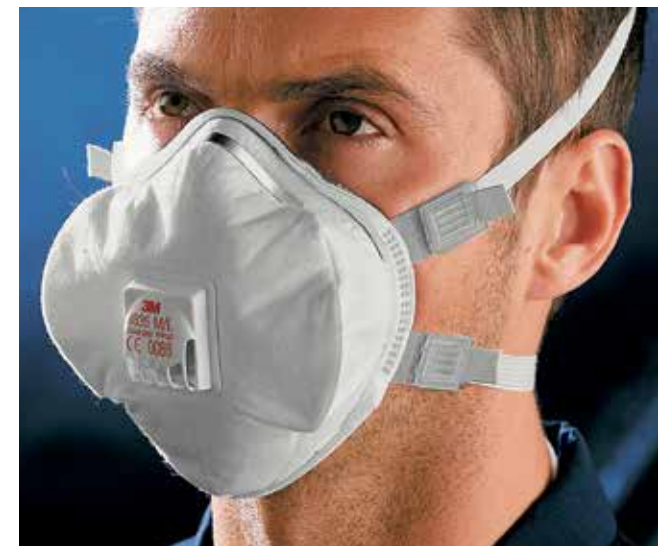
3M™ 8835 respirators are marked 'R', meaning that they can be used over more than one shift providing they have not become clogged and good hygiene practices are implemented.

3M™ Cool Flow Valve reduces heat build-up to offer comfortable protection, particularly in hot and humid conditions.

- Expanded filter area; robust and durable design reduces breathing resistance
- Comfortable, lightweight off-the-face design
- Reliable, effective protection against fine particulates
- Soft sealing ring and adjustable straps
- Red colour coded valve lettering denotes FFP3 protection level

Approved to EN149:2001 FFP3 RD

Ref: 116304 – Packs of 5



Half Mask

Face Fit Awareness

Guide to correct fitting of reusable respirators:

- Always read and follow the manufacturer’s instructions, fitting, hygiene, maintenance and storage
- Before wearing the reusable respirator for the first time, training and face fit testing must be provided
- Inspect the reusable respirator before and after fitting, check for dirt or damage, if any of these apply discard and replace
- Check compatibility with other personal protective equipment
- Every time a tight fitting face piece is worn, remember the wearer must be clean shaven. Beards and stubble prevent a tight seal meaning the face mask will not provide protection

Perfect fit means great protection



- 1 Check the mask. Sling the neck strap over your head before fitting it to your face.
- 2 Start with the chin, then cup the mask over your mouth and nose.
- 3 Pull the head strap over your head and position it on the crest of your head. Never fit the harness over a cap or a hard hat.



- 4 Pull the bottom straps outwards a few times to even out the tension and to make sure the top head strap is tight and secure.
- Tighten the head harness at the buckle until the mask is tight but comfortable against your face.



Negative user seal check

Place the palm of your hand lightly over the hole on the pre-filter holder to make it tight. Do not push so hard that the respirator’s shape is affected. Take a deep breath and hold your breath for about 10s. If the mask is tight, it will be pressed against your face.

NOTE!

If any leakage is detected, check the inhalation and exhalation valves, adjust the straps of head harness or switch to alternative size of the respirator. Repeat the fit check until there is no leakage.

Please note, these fitting instructions relate to the Sundström range of half masks. Please refer to other manufacturers fitting instructions for alternative masks.

Reusable Respirators

Reusable respirators provide a comfortable, secure fit and cost-effective solution for regular use in hazardous dust applications. Our P3 range consists of half mask variants and full face masks which offer integrated eye and face protection.

Reusable respirators require regular maintenance and hygiene checks to ensure the equipment is in full working order. The manufacturer’s instructions will provide guidance on the frequency and how to maintain the reusable respirator; these instructions must be adhered to.

Before the work commences ensure the right particulate (P3) filter has been selected for working with construction dust.

Half Masks



Sundström SR 100 Half Mask Respirator

- The SR 100 half mask is equipped with two exhalation valves, which ensures very low exhalation resistance. Valve covers with baffles effectively protect the exhalation membrane against dust and paint mist. The easily adjustable elastic head harness of the mask is designed as a V-shaped loop and has a large, dished crown plate, which contributes towards a comfortable and secure fit.
- Manufactured from silicone
 - Deep nose bridge and face seal provide a comfortable, secure fit
 - Two sizes available to ensure the best possible fit
 - Elasticated, easily adjustable head harness with large crown plate for a comfortable, secure fit
 - Extremely low inhalation and exhalation resistance reduces wearer fatigue
 - Supplied with pre filter holder allowing you to check face seal before and during work
 - Highly efficient filters ensure low running costs
 - Range of accessories and service kits available

Approved to EN 140:1998.

- Ref:** 168700 – S/M
Ref: 168600 – M/L
Ref: 1C6600 – SR 510 P3 Particulate Filter



Sundström SR 90-3 Half Mask Respirator

- The SR 90-3 half mask is designed to provide a higher level of respiratory protection at a competitive price point.
- Manufactured from thermoplastic elastomer (TPE)
 - Two sizes available to ensure a comfortable fit
 - Comfortable and safe fit
 - Very low exhalation resistance
 - Equipped with two exhalation valves
 - Easily adjustable elastic head harness with V-shaped loop
 - Large dished crown plate
 - Supplied with pre filter holder allowing you to check face seal before and during work
 - Range of accessories and service kits available

Approved to EN 140:1998.

- Ref:** 168910 – S/M
Ref: 168810 – M/L
Ref: 1C6600 – SR 510 P3 Particulate Filter

Arco Reusable Half Mask Respirator

Comfortable and flexible TPE half mask offering excellent value.

- Uses Sundström highly efficient filters
- Two sizes available ensuring best fit
- Elasticated head harness for a comfortable and secure fit
- Low exhalation resistance
- Twin exhalation valves for added comfort

Approved to EN 140:1998.

- Ref: 1F0200 – S/M
Ref: 1F0100 – M/L
Ref: 1C6600 – SR 510 P3 Particulate Filter



3M™ 4000 Series Maintenance-Free Gas/Vapour and Dust Respirator FFA2P3D

The 3M™ 4255 P3 Respirator* incorporates a unique design with integral filters. If disposed of within 28 days it is exempt from the maintenance requirements detailed in the COSHH Regulations.

Designed to offer effective protection from construction dust and organic vapours with boiling point above 65°C e.g. many common solvents.

- Maintenance free design for maximum safety and simplicity
- No maintenance records are required if disposed of within 28 days*
- 2 large bonded carbon filters for low breathing resistance
- Low profile design for better peripheral vision
- Centrally positioned valve for effective removal of heat and moisture build-up
- Soft/Non-allergenic face piece material
- Lightweight and well balanced design
- Cradle head harness
- Easy to fasten neck strap

Approved to EN 405:2001. CE marked, FFA2P3D

Ref: 117400

*Dispose of before 28 days if breakthrough occurs or particulate filter clogs



3M™ 6000 Half Mask Respirator

The 3M™ 6000 Series is a lightweight, elastomeric half mask which requires little maintenance and is ideal in less harsh areas where a cost-effective solution is required.

- Easily fitted filters using a simple bayonet attachment system
- Low profile makes it ideal for use with grinding visors
- Three sizes available
- Cradle head harness and easy fasten neck strap
- Twin filter design for even distribution of weight
- Minimal obstruction to field of vision

Approved to: EN 140

- Ref: 111500 – S
Ref: 111600 – M
Ref: 111700 – L
Ref: 112700 – 3M 2135 P3 Particulate Filter



Full Face Mask
Face Fit Awareness

Guide to correct fitting of full face respirators:

- Always read and follow the manufacturer's instructions, fitting, hygiene, maintenance and storage
- Before wearing the full face respirator for the first time, training and face fit testing must be provided
- Inspect the full face respirator before and after fitting, check for dirt or damage, if any of these apply discard and replace
- Check compatibility with other personal protective equipment
- Every time a tight fitting face piece is worn, remember the wearer must be clean shaven. Beards and stubble prevent a tight seal meaning the face mask will not provide protection

Perfect fit means great protection



1 Check the mask. Sling the neck strap over your head before fitting it to your face.

2 Start with the chin, then cup the mask over your face. Pull the harness over your head all the way down to the neck.

3 & 4 Tighten the lower head straps first, then the upper straps.

5 Secure any loose ends with the fitted clips.



Negative user seal check

Use the pre-filter holder to check if the mask is tight.

Place the palm of your hand lightly over the hole on the pre-filter holder to make it tight. Do not push so hard that the respirator's shape is affected.

Take a deep breath and hold your breath for about 10 seconds.

If the mask is tight, it will be pressed against your face.

NOTE!

If any leakage is detected, check the inhalation and exhalation valves or adjust the straps of head harness. Repeat the fit check until there is no leakage.

Please note, these fitting instructions relate to the Sundström SR200 Full face Mask. Please refer to other manufacturers fitting instructions for alternative masks.

Full Face Masks

Sundström SR 200 Full Face Mask Respirator

The Sundström SR 200 Class 3 full face mask respirator is designed to the highest standards with both protection and comfort in mind. The SR 200 full face mask Air Purifying Respirator is intended for use when maximum safety and breathing comfort are required.

- Manufactured in silicone for comfort and durability
- Integrated inner mask enhances comfort
- Three inhalation and two exhalation valves ensure low breathing resistance
- Large polycarbonate scratch-resistant visor allows excellent field of vision
- Easily adjustable elasticated head harness for a comfortable secure fit
- Can be used with standard 40mm threaded filters
- Lightweight, only 450 grams
- APF with P3 = 40

Approved to EN 136:1998

Ref: 164600 – Full Face Mask

Ref: 1C6600 – SR 510 P3 Particulate Filter



3M™ 6000 Series Full Face Mask Respirator

The extremely lightweight 3M™ 6000 Series full face masks feature a wide field of vision, and are low maintenance design for maximum comfort and ease of use.

The 3M 6000 Series is one of the lightest, most well-balanced Class 1 full face masks available, with unrivalled comfort and easy-to-fit design.

- Comfortable and soft hypo-allergenic face piece
- Simple four strap head suspension, easy to put on and take off
- Broad field of vision from polycarbonate lens
- 3M™ Cool Flow™ Valve reduces heat build up by efficient removal of exhaled air
- Lightweight 410 grams
- Three sizes available
- APF with P3 Filter = 40

Approved to EN 136 Class 1, Visor EN 166B

Ref: 111400 – S

Ref: 111800 - M

Ref: 111900 – L

Ref: 112700 – 3M 2135 Particulate Filter



Arco Essentials Class 1 Full Face Mask Respirator

Ultra lightweight, well-balanced Class 1 full face mask that is easy to fit.

- Soft TPE material
- Six-point head strap for secure fit
- Polycarbonate visor
- Select filter from Arco Essentials filter range

APF with P3 filter = 40

Approved to EN 136 Class 1

Ref: 1F2000 – S

Ref: 1F2100 – M

Ref: 1F2200 – L

Ref: 1F2700 – Arco Essentials STS P3R Particulate Filter



Powered Air

Powered Air is ideal for longer-duration applications and where face fit cannot be achieved. These systems offer the flexibility to provide protection from construction dust. The systems provide increased wearer comfort, higher protection levels and lower running costs making these products a very effective and efficient form of respiratory protection.



3M™ Versaflo™ TR-315 Powered Air Starter Kit

The lightweight 3M™ Versaflo™ TR-300 Powered Air Respirator is the key to an easy-to-use, versatile, respirator system for environments with hazardous particles.

The starter kit includes:

- Turbo unit
- Particle filter
- Pre-filter
- Standard Belt
- High Capacity Battery
- Battery Charger
- Length adjusting breathing tube
- Air flow indicator

Ref: 20V0001



3M™ Jupiter™ Powered Air Starter Kit

The many advanced features of the 3M™ Jupiter™ Turbo unit provides comfort and flexibility. Easy to maintain and use, it can feed any one of a wide range of different headtops.

The starter kit includes:

- Decontamination Belt and Clip
- Filter Gaskets
- Air Flow Indicator and calibration tube
- A pair of Organic Vapour and Particulate (A2P) Filters
- Pre-filters
- Length-adjusting breathing tube
- 8 hour Rechargeable Battery (NiMH)
- Battery Charger

Ref: 20V0023



3M™ Versaflo™ M-306 Helmet

Features a general purpose faceseal for the construction industry.

- Provides protection from specific respiratory, head and eye hazards
- Options for hearing protection
- Lightweight with excellent balance
- Fully adjustable head suspension
- A deflector allows users to direct the airflow inside the headtop for increased control and comfort
- Visor design combines excellent peripheral and downward vision with good optical clarity

Ref: 20V0008

Hearing protection sold separately



Powered Air

Sundström SR 500 Power Unit

The SR 500 is a battery-powered fan unit, complete with filters and an approved headtop, which will provide full respiratory protection. The SR 500 can be used as an alternative for filter respirators when working in a hazardous construction dust environment. This applies particularly to work that is hard, warm or of a long duration.

The filtered air is supplied through a breathing hose to the headtop. Above-atmospheric pressure generated prevents pollutants from the surroundings penetrating the headtop.

The starter kit includes:

- Power unit
- Standard lithium ion battery
- Battery charger
- Standard belt
- 2 SR510 filters
- 2 filter adaptors
- 10 pre-filters

Approved to EN 12941/12942:1998

Ref: 1C9301



SR 500 Guarantee Service Offer

Extend your normal 12 months' guarantee.

By servicing your SR 500 Turbo unit at Arco within 12-24 months after purchase you can extend your guarantee to 36 months or a maximum of 2500 running hours. Sundström Safety AB will then, at no cost rectify any faults on the unit caused through defects in design, materials or manufacture.

Sundström SR 700 Power Unit

The Sundström SR 700 is a small, lightweight powered respirator, specially designed to protect workers from hazardous dust and toxic particles.

- Easy-to-use, one-button control
- High airflow rates of 175 with boost option to 225 L/min
- Automatic flow control, ensuring accurate airflow, regardless of filter clogging or battery condition
- Alarm system and clear display, incorporating both sound and light, to alert the user to change filters or charge the battery
- Robust casing allowing easy cleaning and provides long lifespan
- Lithium ion battery with a charging time of two hours and an operating time of up to eight hours

The starter kit includes:

- Power unit
- Standard lithium ion battery and charger
- Standard belt
- 2 SR510 filters
- 2 filter adaptors
- 10 pre-filters

Approved to EN 12941/12492:1998

Ref: 160100



Sundström SR 580 Headtop and Hose

The SR 580 provides complete protection when respiration, face and head protection is required and can be easily combined with the majority of ear defenders.

- Combined respiratory and head protection
- Hinged visor protects against impact, liquid splashes and molten metal
- Airflow keeps visor de-misted
- Universal attachment for hearing protectors
- Large field of view
- Simple to change visor
- Assigned Protection Factor 40
- Classification TH3

Approved to EN 12491:1998, EN 397:1995, MM-LD-440 V AC, EN 166 1B39

Ref: 1C8200



Sundström SR 552 Harness

An accessory for the SR 500 or SR 700 fan unit. The harness allows the powered unit to be used in situations where a waist mounted unit would not be practical.

- The fan unit can be worn in the lower back or between the shoulder blades
- The plate on the back has three size adjustments
- Extremely comfortable for long duration wear due to ergonomic design
- For use with Sundström SR 500 or SR 700 powered respirators

Ref: 1C9924



Removal of Dust

From initial strip-outs to final finishing, dust in construction sites is unavoidable and poses safety risks and presentation problems. Quickly and easily collect and remove hazardous construction dust where it falls, and in many cases catch it at source.

Kärcher KM 70/15 C Push Sweeper

Sweeping dry dust with a broom takes time and effort, and creates a lot of airborne dust particles that can carry health risks. With a Kärcher push sweeper like the KM 70/15 you can sweep more quickly, more thoroughly and with considerably less physical effort. The KM 70/15 also massively reduces the amount of dust thrown into the air, improving safety and further reducing cleaning time of other surfaces.

- The main roller brush is driven by both wheels to ensure consistent rotating speed
- Dirt picked up by the roller brush is swept directly into the waste container by the dust pan and brush cleaning principle
- A minimum amount of physical effort is required as the sweeper is light and easy to manoeuvre
- The side brush is height-adjustable in four positions to suit different surfaces
- The ergonomically shaped 20 litre container aids easy handling and emptying
- The push handle can be set to three different positions to suit the height and reach of the user
- The push handle folds down completely reducing storage space needed

Ref: 32K0048



Kärcher NT 35/1 Tact Te H (240V)

Kärcher's H-type vacuums are approved for safe extraction-at-source of health-endangering dusts including asbestos and other carcinogens, in accordance with EN 60335-2-69. The NT 35/1 Tact Te H is like the NT 35/1 Tact, but features a full anti-static system with electrically-conductive accessories. The machine's power tool take-off feature enables power tools to be connected directly to the vacuum, which then automatically switches on and off with the power tool. This reduces power consumption and noise, as the vacuum is only switched on when needed.

- 35 litre container (45 litre version also available)
- Electrically-conductive accessories, including detail nozzle and floor tool
- H-rated glass fibre filter
- Special paper bag included for safe handling of dust (plastic bags also available)
- Suction hose and power cord can be stored on the turbine head

Ref: 32K0116



Kärcher NT 35/1 Tact (240V/110V)

As well as being a superb non-hazardous dust extractor, Kärcher's NT 35/1 Tact easily collects wet or dry dirt, making it an ideal piece of kit for any construction business. Its range of attachments means it can be connected to a power tool to extract dust at source, or used to clean dust, dirt, spillages and even flood water from just about any surface. The machine's unique Tact automatic filter clean system ensures performance stays high even when dealing with large quantities of fine dust.

- 35 litre container (45 litre version also available)
- Constant high suction power – as a result of the fully automatic TACT filter cleaning system
- Innovative Eco flat pleated filter system maximises capacity and convenience
- On/off switch for TACT system with LED display
- Kärcher clip-system (suction hose)
- Integrated accessory holder on back of the machine
- Suction hose and power cord can be stored on the turbine head
- Large recessed flat tray on top of the unit for holding tools and accessories

Ref: 32K0062 - 240V

Ref: 32K0063 - 110V

Ref: 32K0064 - Filter Bags



Over 40 branches nationwide

| Scotland | Telephone |
|--------------------|---------------|
| Aberdeen | 01224 249 494 |
| Bellshill | 01698 841 697 |
| Glasgow | 0141 419 3231 |
| Irvine | 01294 315 908 |
| Linlithgow | 01506 841 510 |
| Oil & Gas Aberdeen | 01224 249 494 |

| North of England | Telephone |
|------------------|---------------|
| Blaydon-on-Tyne | 0191 499 1555 |
| Carlisle | 01228 591 100 |
| Stockton-on-Tees | 01642 617 441 |

| North West England | Telephone |
|--------------------|---------------|
| Darwen | 01254 778 680 |
| Ellesmere Port | 0151 326 2626 |
| Stoke | 01782 279 254 |
| Trafford Park | 0161 869 5807 |
| Warrington | 01925 636 139 |

| Yorkshire and the Humber | Telephone |
|--------------------------|---------------|
| Bradford | 01274 732 211 |
| Doncaster | 01302 341 195 |
| Grimsby | 01472 361 756 |
| Hull | 01482 611 611 |
| Leeds | 01132 429 531 |
| Ossett | 01924 268 800 |
| Sheffield | 0114 253 6367 |

| East Midlands | Telephone |
|-----------------|---------------|
| Bury St Edmunds | 01284 773 030 |
| Leicester | 0116 231 8700 |
| Northampton | 01604 763 805 |
| Nottingham | 0115 938 0456 |

| West Midlands | Telephone |
|---------------|---------------|
| Coventry | 02476 369 780 |
| West Bromwich | 0121 500 6060 |

| South of England | Telephone |
|------------------|---------------|
| Avonmouth | 0117 982 3751 |
| Basildon | 01268 525 847 |
| Brentford | 01923 204 141 |
| Heathrow | 01753 685 192 |
| Hedge End | 023 8027 0000 |
| Orpington | 01689 875 411 |
| Park Royal | 01923 204 141 |
| Plymouth | 01752 751 650 |
| Poole | 01202 640 468 |
| Portsmouth | 023 9273 4995 |
| Watford | 01923 204 141 |

| Wales | Telephone |
|---------|---------------|
| Cardiff | 02920 475 810 |
| Swansea | 01792 792 390 |

| Northern Ireland | Telephone |
|------------------|---------------|
| Newtownabbey | 028 9083 0850 |

| Republic of Ireland | Telephone |
|---------------------|-------------------|
| Dublin | (+353) 1 409 5000 |

www.arcosafety.ie



To order online visit www.arco.co.uk



Arco Limited
P.O. Box 21,
Waverley Street,
Hull HU1 2SJ

www.arco.co.uk