Dust Control for the Waste Industry

EXEON®

CLEAN AIR FOR INDUSTRY

ABOUT US

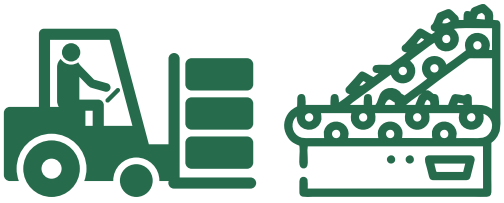
Exeon are specialists in dust control. We have extensive experience in the Waste industry, enabling us to support the requirements.

DUST PROBLEMS IN THE WASTE INDUSTRY

Dust contamination occurs in Waste sites in the following ways:

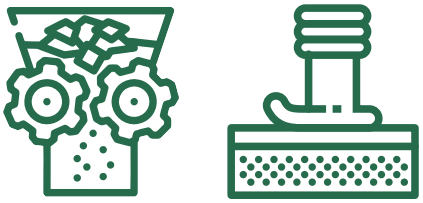
Mechanical handling / Conveying

Mechanical movements of waste cause the release of dust into the atmosphere.



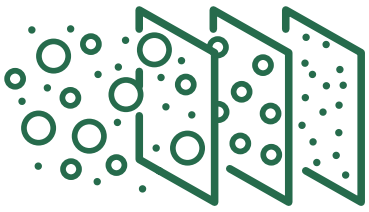
Shredding / Compacting

Shredding and compacting of waste causes agitation and as a result release of dust into the atmosphere.



Screening / Sorting

The process of screening and sorting waste is often a dusty process, and often there is vibration involved, again involving agitation of waste and release of dust.



Ventilation systems are needed to provide local or background extraction of these dusty areas in the buildings where the waste is stored or processed. The ventilation systems provide improved working conditions for the operators and sufficient odour and dust filtration to meet environmental requirements.

Exeon looks to work with Clients to design bespoke extraction solutions tailored to the individual site requirements.

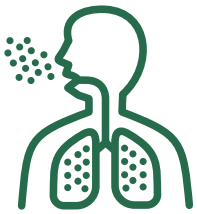
LOCAL EXHAUST VENTILATION (LEV) FOR THE WASTE INDUSTRY

WHY IS IT SO IMPORTANT?

Dust Extraction is important at Waste Sites for the following reasons:

Dust Levels and Damage to Health

High dust levels within the atmosphere are dangerous to operators inside. RPE masks can be worn for specific short-term operations, but it is considered the last line in defence. For constant dust discharge, dust extraction should prevent airborne dust from creating a dangerous environment and potential respiratory illnesses.



Cleaning Requirements

Airborne dust will settle around the plant and create an expensive cleaning requirement, a health and safety slip hazard, and a potential for vermin.

ATEX Rating of the Area

With some types of dust, explosions can occur through the allowance of dust into the atmosphere. There is the potential risk of creating a dust zone if there is a dust build-up. ATEX zoning is also expensive, due to the specialised electrical equipment required to operate within these zones.

Fire risk

Waste material, particularly fine dust, can be very flammable through allowing this to build up around the plant, which can create additional risk within the plant.

Water reduction

Water sprays can be used to control airborne dust but this can create issues with the longevity of the plant due to corrosion.

WHAT ARE THE REGULATIONS?

The regulations for dust control in the waste industry are led by the following organisations:

Health & Safety Executive

Environmental Agency

The standard documentation for dust-creating processes is HSG:258. This is an HSE document that controls the health of workers within the premises. There are various Workplace Exposure Limits (WELs) which apply to different dusts within the waste industry. If operators are exposed to these dusts then dust control is required to protect them.

POP (Persistent Organic Pollutants) Regulations

Persistent organic pollutants (POPs) are poisonous chemical substances that break down slowly and get into food chains as a result. The manufacture and sale of these are now banned. However there are widely present in both the textiles and foam of domestic seating.

The new POP regulations require separate handling of specific waste streams to ensure these go to incineration and not landfill, and also systems to ensure particulate does not escape to the atmosphere during shredding at waste sites. The guidance recommends LEV to contain the dust (EA POP Guidance for Domestic Seating Section 3.7).

WHAT TYPE OF DUST CONTROL SYSTEMS ARE THERE?

OX™ EXEON®

The Exeon Ox is a quality range of reverse-pulse cleaning dust extraction units. It uses compressed air to create a temporary reverse-flow of air to clean off the filter elements, which enable it to withstand the most demanding of conditions.

Its 3mm steel sheet bodies finished with 2-coat paint enamel gloss finish and welding rolled steel framework mean its an extremely tough unit, and is built to last.

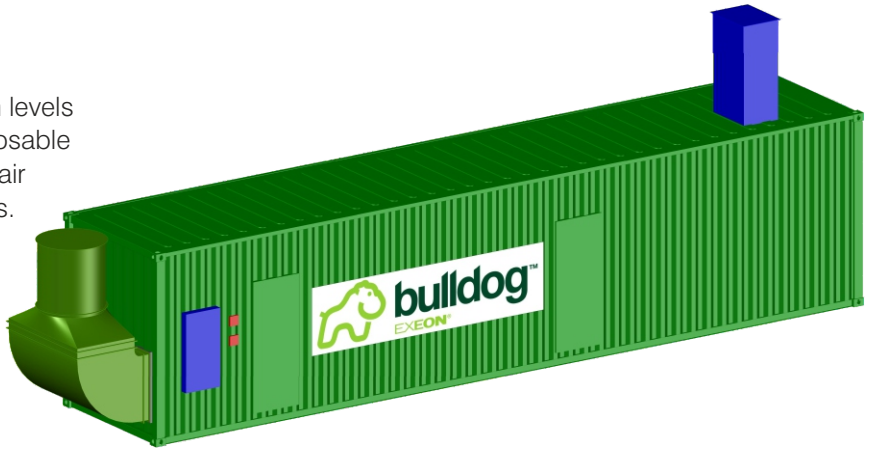
rhino™ EXEON®

The Rhino shaker dust extractors are highly versatile, cost-effective, and efficient at safely removing ATEX dust.

The Rhino can be used on a huge range of LEV dust extractor applications and is suited to all industrial, research, engineering, and educational situations. It is rated to ATEX Zone 22 internal as standard.

bulldog™ EXEON®

Exeon's Bulldog is a dust extraction system suitable for background extraction with high levels of airborne contaminated dust. It uses disposable elements and is very cost-effective for high air volumes at low/medium dust concentrations.



cobra™ EXEON®

The Cobra cyclone is a high-performance cyclonic separator that ensures effective removal of particulate matter from extracted airflows.

Welded throughout, the Cobra is made of 2mm and 3mm mild steel, with anti-rust paint and a topcoat of epoxy, or alternatively in stainless steel.

CASE STUDY

Waste Handling

DUST CONTROL FOR WASTE SORTING PROCESS

ISSUE

At this Materials Recovery Facility (MRF) there were six separator units which used airflow to separate lighter and heavier products. These emitted a large volume of dust from which was a hazard.

SOLUTION

Exeon designed and installed a dust extraction system with multiple hoods, galvanised steel ducting and a central OX (TM) pulse-clean collector unit with rotary discharge to a wheelie bin for easy waste disposal. The systems handles approximate 18,000 m3/hr.

Ref: 146481

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CASE STUDY

Aggregates

TIPPING EXTRACTION FOR STEAM AND DUST

ISSUE

A waste handling company were tipping fly ash into a hopper which was causing a good deal of dust and steam emissions, causing nuisance to neighbouring properties.

SOLUTION

Exeon installed an extraction system with a large Bulldog unit with extra HD disposable filter elements for maximum life.

Ref: C125895

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