

Transcript for Camfil presentation

Introduction

Serving in excess of 180,000 residents within Cheshire East, here at Ansa we are passionate about delivering leading services within the waste and recycling industry.

Specialising in sustainable and creative environmental services, we are proud of our clean air solutions that not only benefit human health but increase performance and reduce energy consumption.

Through this presentation, we are letting residents behind the scenes to see how our world class air filtration system works and the quality of technology we utilise.

World leading technology

Camfil is the global industry leader in clean air solutions with 50+ years of experience. Our solutions protect people, processes and the environment to benefit human health, increase performance, and reduce and manage energy consumption.

Twenty-three manufacturing plants, six R&D sites and over 65 local sales offices worldwide provide service and support to our customers.

The Camfil Group is headquartered in Sweden but more than 95% of sales are international. The Group has around 3,500 employees and sales in the range of SEK 4.9 billion.

Basic process

The fan speed is controlled by the pressure sensor located upstream of the dust collector to ensure a constant flow rate as pressure drop increases over time.

Clean air stream is now sent out to atmosphere by a discharge stack.

Molecular filter unit remove the odour causing contaminants from the air stream.

Dust collector to remove particle from the airstream, to offer pre-filtration to the carbon bed.

Images of a dust collector

Dust collector to remove particles from the airstream that would otherwise block the carbon pore structure in the molecular filter reducing the efficiency and lifetime of the filter.

Self cleaning using compressed air to remove the build up of dust on the filters once a predetermined differential pressure has been achieved

Once the lifetime of the particle filters has been reached a service light will indicate and the filters will need to be replaced the filters are visually inspected and can be replaced simply.

Vertical deep carbon bed (VDBe) overview

Image VDBe fundamentals.

Image of the main features of standard VDBe:

- Leak free design
- Media is filled above the planking plate
- In the events of media settlement the beds are still leak free
- Note Camfil recommend inspection and top up of 3 to 6 months

Image of main features of media compartment

Media compartments have the same volume as a super-sack

Media filling is quick clean and safe

Further Image of main features of standard VDBe

Carbon contact parts from 316 stainless steel

Painted carbon steel construction. Suitable for exterior use

Vertical deep carbon bed (VDBe) servicing

Image of typical servicing and condition analysis

Media sampling

- Assess the condition of the media
- Take 3 samples of media at the location shown
- Sample at least two compartments

- This ensures consistent representative samples across bed

Image of sampling spear

- Before use rotate inner tubes so gate is closed (align lines on grip and rod)
- Spear is inserted into the media, at least 1m deep
- Rotate the hands 180 degrees
- Remove the spear and place the contents into a sealable plastic bag. Ideally where each sample was taken
- Carbon samples to be sent to Jacobi

Image showing replacement of media

- Access roof section via ladders and safety gate
- Remove lid
- Utilise vacuum equipment to remove the media. This can be undertaken by camfil
- Replace lid
- Repeat for each section

Image showing typical servicing detail

- Utilise at 1m³ Super-sack with bottom discharge
- Raise the sack utilising suitable lifting device e.g. crane, Manitu etc

Odour issue

- Accumulation of waste following lockdown & Bank Holiday Monday (25/05/20) operating conditions.
- Weather conditions experienced – hot & sunny
- Site works continued on Saturday 30/05/20
- Odours reported by local residents - 29/05/20
- Site odour present from Friday 29/05/20 to Monday 01/06/20.
- Report of Camfil fault & system not operating on max outputs reported to EA on 01/06/20 (see next page for email)

EA report – Monday 1st June 2020 @ 15:55

“We have identified a problem with our Bio Filter System in the RDF shed, we are currently operating the system at half power. We have had external contractors in identify the problem and we currently do have a solution, just waiting on the final plans to be drawn up. The building installation should hopefully be completed by the end of June.

OFFICIAL

Due to the issue with the system, we are currently running the shed around 24/30 hours turnaround Monday to Friday, we are also operating Saturday mornings to remove as much waste as possible for the weekend.”

Action taken

- Repairs undertaken to Camfil unit in main RDF transfer station 11/06/20 to 15/06/20 (see following photos)
- Duct system in RDF shed fully vacuumed and cleared as a precautionary measure 30/06/20 to 02/07/20
- Camfil system serviced and carbon pellets removed and replaced, completed 14/07/20
- Dust extraction filters to be replaced Sat 18/07
- System fully functional and working as planned 18/07/20 onwards

Image inside the transfer station

LESSONS LEARNED & IMPROVEMENTS MADE

- Carbon sampling frequency increased – 3 monthly undertaken to track the carbon degradation
- Engagement with local press
- Site visits for Ansa CLG Members – End of July
- Improved communications with local stakeholders
- Liaison Group
- Town Council
- Local Residents (Facebook)

Image of waste trucks

Image records of fault, improvements and carbon Change

Image of concave side wall and buckled ribs

Image of structural repair complete

Image of repair to the active side with repositioned Armco

Image of carbon removal underway

Image of media compartments before and after the vacuum process

Image of replacement of carbon

Image of carbon Samples

- Red – used carbon in RDF
- Yellow – used carbon in Recycling
- Green – unused new carbon

Image of Filter change

Image of Waste Bays configuration both buildings

Image of RDF building overview

Image of WTS building overview

Image of RDF Building Bays 1 to 4 @ 5pm – 13th July 2020

Image of WTS Building Bays 5 & 6 @ 5pm – 13th July 2020