LOWER YOUR OPERATING COSTS WITHOUT COMPROMISING HEALTH

DA600-LL (LONG LIFE / HIGH EFFICIENCY)

DIESEL EXHAUST FILTERS FOR COAL MINING VEHICLES.

- Microfresh® Diesel Exhaust filters offer the highest level of nanoparticle protection available
PRODUCT APPROVALS

New version can be provided with or without gaskets as shown

- Added to the list of MSHA registered diesel exhaust filters, January 2016

CRITICAL OPERATING TEMPERATURES

<table>
<thead>
<tr>
<th>Filter Type</th>
<th>Maximum Continuous Operating Temperature</th>
<th>Minimum Auto Ignition Temperature (New Filter)</th>
<th>Minimum Auto Ignition Temperature (Used Filter)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA600LL (Long Life)</td>
<td>150 Deg°C</td>
<td>410 Deg°C</td>
<td>400 Deg°C</td>
</tr>
</tbody>
</table>

As per NSW Trade & Investment T15-003S4
All data from independent testing conducted by Peak3 Pty. Ltd. (7/2013-7/2014) on Waterbrake Dynamometer setup

Engine: CAT C7 fitted with filter housing and run at exhaust flow to suit tested filters

Analysis equipment: MAHA MPM-4M for particle mass measurement, EEPS for particle number measurement

Steady state testing (some parameter fluctuations due to use of batch scrubber with variable water level)

Testing conducted on engine equipped with water scrubber, filter life is longer on engines equipped with dry scrubbers.

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DA600LL

DIESEL EXHAUST FILTERS FOR COAL MINING VEHICLES

Used Filter Disposal

- Freudenberg Filtration Technologies® Microfresh Diesel Exhaust Filters have been classed as solid industrial non-hazardous waste suitable for disposal in landfill.
- Due to use of polymer based media, there is potential for used filters to be processed in a waste heat recovery plant that runs turbines for power generation, metal from the filters can then be separated and recycled.

Waste Disposal Operators are now

- Incinerating used filters in a waste heat recovery process that runs turbines for power generation
- Metal from the filters is then separated and recycled.

Whilst filter disposal cost is negligible in regions where waste is measured by mass, disposal cost via volume basis (even at reduced rates due to recycling) can be significant.

Solutions

- Reduce volume of filters (i.e. Long life / high efficiency filters)
- Talk to you waste contractor and arrange weight basis disposal
- Reduce waste volume through crushing.

Washing of Diesel Exhaust filters

Freudenberg Filtration Technologies do not recommend the washing of used Diesel Particulate Filters due to;

- Ongoing OHS / Environmental risks / lack of process compliance (ISO14001)
- Washing filters reduces filtration efficiency with each wash (limit number of washes)
- Request a detailed filtration efficiency report after each wash.

Hydraulic Filter Crushing System

- Cycle time of 30 seconds for crush of 5 filters
- The unit is compliant with Australian Safety Regulations AS3000 / AS 4204.1
- Crushing chamber fully sealed
- Filters can be crushed in their disposal bag (bags big enough for air movement).