Saving Money with P84 Filter Bags

March 2012
P84 in CEMENT KILN FILTERS

SAVING MONEY WITH P84 FILTER BAGS

• BAG MATERIAL EVALUATION
• COST CALCULATION
DO YOU KNOW YOUR BAG HOUSE OPERATING COSTS?

CEMENT PLANT 10,000 TPD

• The ID-fan consumption of a 10,000 tpd kiln (typically 800kW) results in costs of 800,000 USD/year.
• Savings of 10% and more (>USD 80,000 a year) are possible with P84!
• Each mg/Nm3 dust equals emissions of 19 tons/year!
• Stable operation below 10mg/Nm3 with P84 saves the environment and prevents product loss.
LOWER PRESSURE DROP
with P 84

Lower pressure drop
→ 10-20% energy savings
and lower emissions
with P84 needle felts

<table>
<thead>
<tr>
<th>P84</th>
<th>ePTFE/glass</th>
</tr>
</thead>
<tbody>
<tr>
<td>gas flow [m³/s]</td>
<td>666</td>
</tr>
<tr>
<td>dp [mbar]</td>
<td>8.5</td>
</tr>
<tr>
<td>ID-fan power consumption [kW]</td>
<td>871</td>
</tr>
<tr>
<td>annual ID power consumption (8000 hours) [kWh]¹</td>
<td>6,967,385</td>
</tr>
<tr>
<td>electric energy costs [USD-cent/kWh]</td>
<td>10</td>
</tr>
<tr>
<td>annual electricity costs [USD]</td>
<td>$696,738</td>
</tr>
<tr>
<td>Energy saving potential with P84</td>
<td>$122,954</td>
</tr>
</tbody>
</table>

¹) calculated with 65% total efficiency (fan, motor&drive)
Lower dust emissions with P84:

Emissions of needle felts outperform membrane materials in many applications.

The results on the left were obtained from bags after 29 months operation in a cement plant.

- P84 typically achieves emissions below 10 mg/Nm³.
- After 2 years operation a significant advantage of P84 over PTFE membrane on woven glass could be shown. 30% lower emissions with P84 bags.
- For a 10,000 tpd kiln every mg/Nm³ dust equals emissions of app. 19 tons/year!
LONGER CYCLE TIME WITH P84

Longer cleaning cycle time with P84:

- Less mechanical ageing → longer bag life
- Lower pressurised air consumption → lower costs
WHY USE P84 BAGS

The right choice of filter bags will finally result in
- a considerable extension of the bag life
- lower compressed air consumption
- bringing down emission levels
- reducing production downtime

All together

A significant reduction of maintenance and energy costs.