

C2 Emissions, techniques and monitoring

Stage of process:

- 1. Delivery and storage of raw materials:** No emissions expected
- 2. Connection of IBC's into the dosing system:** No significant emissions anticipated
- 3. Foam injection:** Potential minor fugitive emission when foam being injected into the system. Air sampling will be carried out in this area.
- 4. Curing stage:** There shouldn't be any emissions as the system is sealed during this stage. Monitoring of the air around this area will be carried out in accordance with the permit.
- 5. Gun cleaning:** potential minor emission into LEV system. This system vents to atmosphere at the LEV vent point identified on the site plan
- 6. Cutting and finishing:** emissions from the cutting and finishing of the panels is Captured in our LEV System
- 7. Waste.** Our waste is recycled with in various parts of our Factory, Waste panels from fabricated panels are either cut up and used for skids or packers. Or the foam is used again with the making of the panels. Any OSB off cuts are used as a packing board to protect our goods Timber Off cuts are used to protect our SIP Panels when packaging. All other waste that can't be recycled go to land fill under Waste code 17,09,04 and waste code 17,02,01.

No emissions within startup and shut down expected

To date no monitoring of our emissions has been carried out from an environmental perspective but we propose the following if a permit is granted.

Proposed emission monitoring:

Substance	Source	Emission limit/Provisions	Type of monitoring	Monitoring frequency
Particulate matter	LEV – injection stage	50mg/Nm ³	Annual	Annual
Particulate matter	Filter system – cutting and finishing operations	50mg/Nm ³	Indicative	Continuous during normal operation
Di-isocyanate as total NCO group	LEV – injection and curing stage	0.1 mg/Nm ³ averaged over any 2-hour period whilst plant is in operation	LEV	Annual

VOC - Cyclopentane (blowing agent)	No monitoring proposed in line with pg6/29(12) which states: Some activities may just emit HFCs or pentane (which are used as blowing agents) and no other VOCs. In these cases, neither the emission limit nor the monitoring provisions in Row 2 of Table 3 should be applied. If any other VOCs are emitted, such as methylene chloride, the provisions in Row 2 are applicable, unless the amounts of these other VOCs are so small that they are unlikely to have more than a trivial environmental impact. Below is the volume used from January 24 to January 25
Odour	No significant odour emissions expected from the process but would monitor if requested by Knowsley Council.

We will record the annual usage of the individual substances we use on site as blowing agents, including the ODP (Ozone Depletion Potential), GWP (Global Warming Potential) and POCP (Photochemical Ozone Creation Potential) figures for each substance.

Properties of blowing agents used **Cyclopentane - 22kg and formic acid - 50kg PER**

1000, KG - January 2024 to January 2025 = 134 IBC

Cyclopentane - 22kg *134=2948kg

formic acid - 50kg*134=6700kg

Total weight of blowing agent in 12-month period = 9648kg

Blowing agents are incorporated with in Polyol before arriving on site.

b) Emission Control Techniques (BAT Measures):

Best Available Techniques (BAT) are applied to minimize emissions:

1. Process Containment:

- Use of **closed loop systems** for chemical handling and foam injection, to prevent leaks.
- IBCs when connected to the plant are under negative pressure.
- **Sealed curing chambers** capture and contain emissions during the exothermic reaction.

Operational Controls:

1. **Preventive maintenance:** LEV system assessed annually by Bureau Veritas.
See document reference: C2(a) Local Exhaust Ventilation Report

We currently have no service agreement with any LEV specialists.

2. **Routine maintenance:** We currently have 2 main extraction systems within our Factory both have sock filters on, and both have self-cleaning programs built into them. That blows positive air through the sock filter system in burst for 30 minutes, both have rotary valves on with neoprene rubber, this is most likely to fail over time, so we have 3 in total. 1 spare always. If the LEV was to fail the EXTRAC IT will come to site. We would not complete any fabrication with our a working extraction system in place.
3. **Monitoring protocols:** Proposed stack sampling will be carried out in line with the permit.
4. **Incident Reporting:** Proposed any abnormal emissions are logged, investigated, and corrective actions implemented. **See document reference: C2(b) Non-Conformance Form F-04.** If required by the permit, we will notify Knowsley Council of any abnormal emissions.