

C1 Process Description

The installation manufacture insulated polyurethane foam panels by injecting polyols and di-isocyanates into moulds through an automated system. The process involves handling and reacting chemical compounds to form a rigid, insulating core within structural panels.

The following flow diagram simplifies the process employed at our site.

Material Handling and Storage:



- **Polyols, di-isocyanates, and blowing agents** (such as pentane) are stored on bunded areas within our factory building. The temperature is controlled, and the containers are sealed to minimise exposure and prevent leaks.
- Raw materials are transferred to the injection system through a **closed-pipe delivery system** to reduce the risk of fugitive emissions.

- Release agent is used on the jig when setting up the press it helps prevent the foam from sticking to the rebates it evaporates into the mould. Just like waxing your car.

Production Process Overview:

- **Pre-Mixing Stage:** Polyols and di-isocyanates are combined with blowing agents under controlled conditions to create a reactive foam mixture.
- **Foam Injection:** This mixture is injected directly into panel moulds through an enclosed, precision-controlled system to ensure accurate dosing and consistent product quality.
- **Curing:** Foam undergoes an exothermic curing process within the moulds, solidifying to form the panel's insulating core.
- **Cutting and finishing of final product:** When required the final panels are cut to size. Emissions from the cutting activity are captured and vented to a bag filter system.
- **Waste:** from cutting sips are collected in thickness and used on other jobs **off cut lengths stored in the sipco factory other off cuts are used for skids and packaging what ever cant be used is shredded up and turned in to pellets that go to landfill.**

Operational Controls:

- **Automated dosing and delivery** systems regulate the foam composition, minimizing waste and variability.