

Flexible Containment Solutions Guide



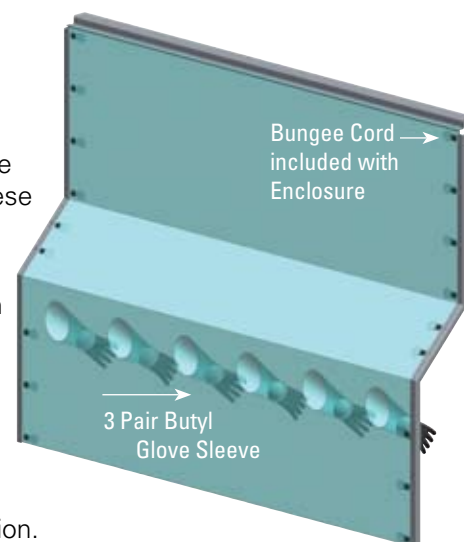
Process Area Barrier Curtains

OVERVIEW

Process Area Barrier Curtains are a useful tool in improving the containment levels in existing installations as a method to reduce operational exposure risk and to restrict access. Examples of these types of applications include, but are not limited to, down flow booth curtains and room access barriers.

Down flow booths, for example, work by pulling air across a drum or piece of processing equipment which typically provide a containment level of 100 µg/m³ on an 8 hour time weighted average (TWA). While this draws the powder into a set of filters, the airflow is disrupted when an operator is working at this type of station. When that occurs, eddy currents of air and entrapped powder start to swirl which disrupts containment. The barriers described in this guide are a tool in improving this type of application.

Similarly, restricting access to another part of a processing suite has been a demonstrated need as well. Here, a barrier can be added to a doorway, for example, to restrict the flow of personnel between the suites.



HOW DOES IT WORK?

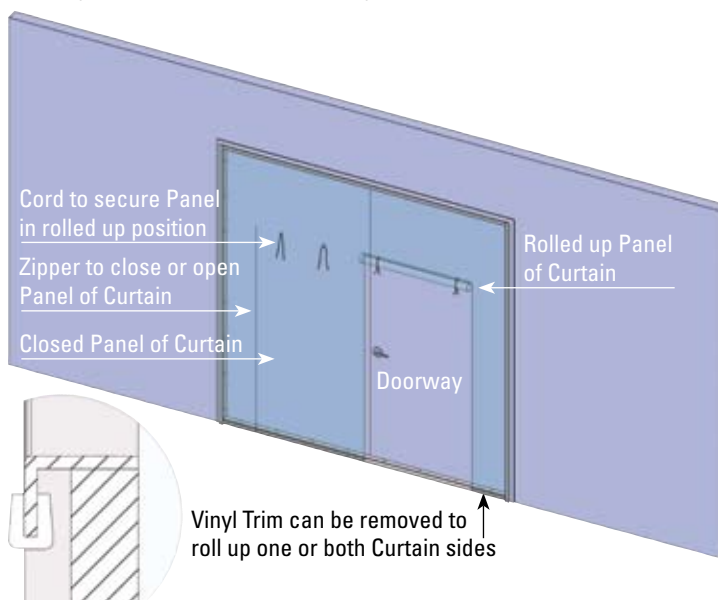
By isolating the operator's breathing zone from the point of exposure with this form of secondary containment the operator is protected from the product and vice versa.

The curtains are manufactured from clear ArmorFlex® 113 film that will allow room light to illuminate inside the barrier and not restrict visibility. This rugged film provides a safe working environment while enabling the enhancements developed through numerous installations using this flexible containment technology.

Typically, the ArmorFlex® 113 is patterned to interface with the opening to be contained. This can be a flat sheet or a three dimensional design. The barrier is attached using flanges and U-Groove channel as a locking mechanism or by grommets.

Glove sleeves are incorporated into the panel as needed by the specific process. These can include right handed, left handed, or ambidextrous gloves.

There are myriad flow booths installed and as such no one curtain design fits everyone's needs. As such, customization is provided to make sure the process and ergonomics are covered correctly.



WHAT ARE THE APPLICATIONS?

This type of containment can be an extension of down flow, cross flow, and laboratory fume hoods. In addition, doorway restrictions have also been designed to prevent access from one part of a suite to another.

The use of flexible containment allows the end user to process contained when needed or to follow existing, open processing procedures when containment is not required. In both cases, cost savings are realized by modifying an existing design or using an existing piece of equipment with no modifications.

WHAT ARE THE FEATURES/BENEFITS?

Features

- Retrofit to existing equipment designs
- Clear film
- Passive system
- Flexible materials
- Disposable components

Benefits

- Provides the lowest overall cost of process ownership through low capital and operating cost including reduced cleaning and cleaning validation
- Supports visibility for maintenance
- Does not affect ATEX and Ex ratings
- Ergonomics maximized
- Speed of implementation

WHAT CONTAINMENT LEVEL PROVIDED?

These types of barriers are designed to enhance the capabilities of the booths and facilities installed and rely on the airflow from the primary source of containment.

WHY USE THIS OVER OTHER TECHNOLOGIES?

The cost of ownership, ergonomic advantages, and speed of delivery benefits of this flexible solution far outweigh those of rigid isolation systems.

Tools such as Lean Manufacturing come into play more and more. For example, the time to clean and validate the cleaning are major bottlenecks for processing efficiencies in the plant. Being able to minimize this part of the process results in getting products to market faster and at an overall reduction in operating costs when considering labor, utilities, and waste disposal costs. It also supports getting multiple products to market faster within an existing facility without risking product safety.



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