arcoplast
WALL AND CEILING SYSTEMS
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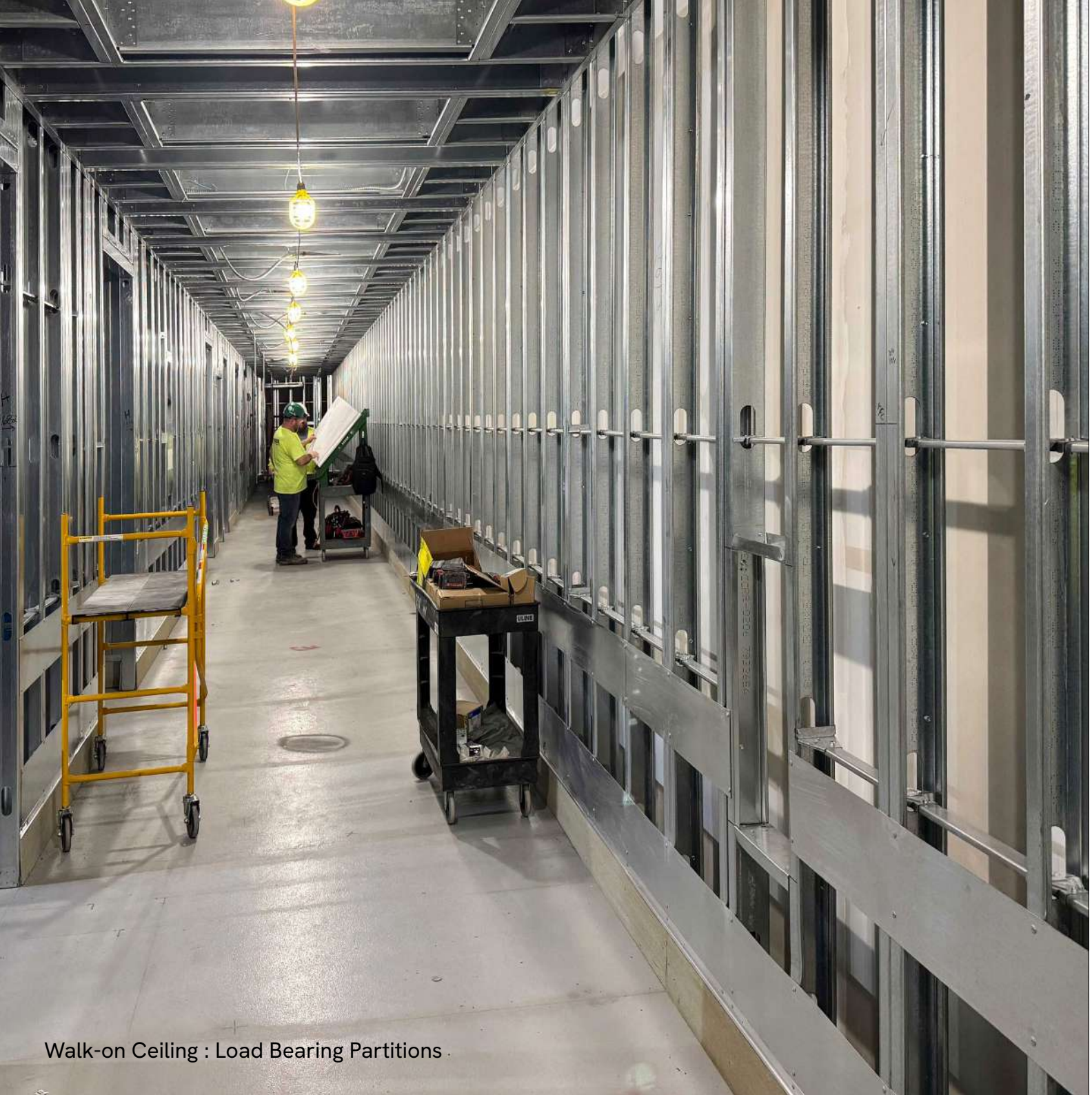
Arcoplast Dry Build

Primary Barriers Overview

2025

22nd June



Walk-on Ceiling : Load Bearing Partitions

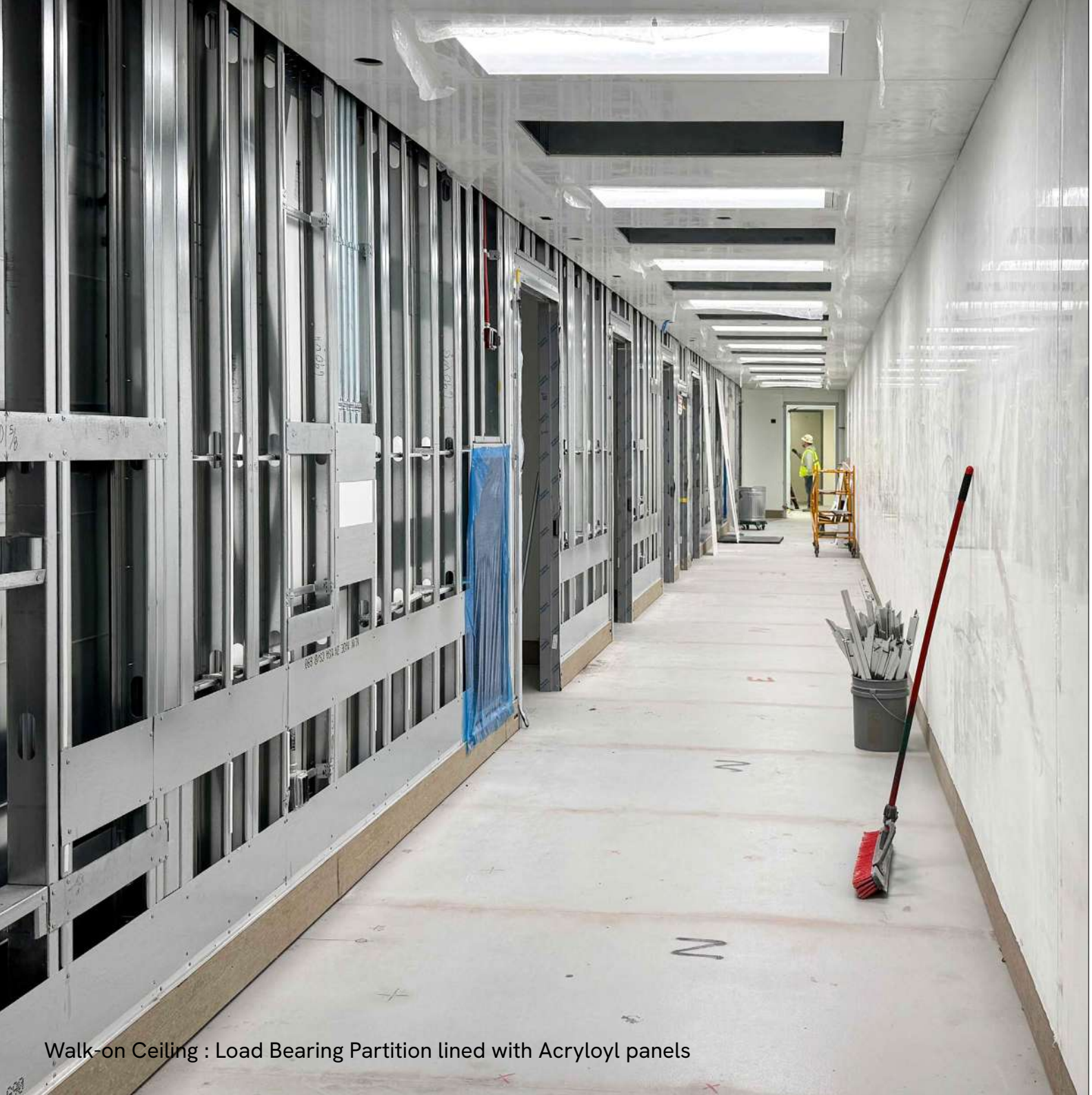
Precision Engineering

Arcoplast panels are manufactured in a controlled environment to specification, using only virgin materials to ensure all mechanical and physical properties render a consistent surface topography, chemical stability, durability and uniformed strength.

On-site flexibility saves time and waste
The Arcoplast Dry Build system involves no pre-engineering.

On the job Arcoplast primary barrier panels are able to be precisely and efficiently cut and tailored to specification. Penetrations for MEPs and direct attachment of fixtures are seamlessly sealed and finished.

The Arcoplast Dry Build system supports circular economy practices by employing systematic construction processes, leading to reduced labour and material costs.



Walk-on Ceiling : Load Bearing Partition lined with Acryloyl panels

Risk Management

The Arcoplast Dry Build installation system is engineered to comply with the following high containment standards : CL-3, CL-4, PC3, PC4, ABSL-3, BSL-3Ag, BSL-3, and BSL-4.

Prefabricated components and methods of standardized installation processes reduce on-site variables. There are no wet trades and this factor alone mitigates the risk of surface contamination.

Years of experience forged Arcoplasts Dry Build installation system as a methodical process of steps and sign-off procedures developed to ensure compliant, documented quality control. This is done through coordinated sequencing of panel fixing, adhesive curing, joint sealing and finishing, these critical steps ensure the integrity of the primary barrier.

The Arcoplast Dry Build system ensures installation consistency that aligns with cleanroom commissioning and performance qualification processes.

Walk on Ceiling

Architects & Engineers often ask the question : Can Arcoplast BSL-3 & BSL-4 primary barriers be designed with a walk on ceilings?

The answer is : YES

These two images depict a facility constructed with a load-bearing support structure, designed to accommodate an Arcoplast walk-on ceiling.

- ✓ Structural Steel Joists
- ✓ Load bearing partitions
- ✓ Metal Floor Decking
- ✓ Arcoplast Ceiling Liner

Designed & Engineered : Arcoplast BSL 3 primary barrier walk on ceiling

Acryloyl PC3 Lab : Acryloyl panels being installed

Installation

A well-trained crew can install an Arcoplast Primary Barrier quickly and efficiently using the Arcoplast methodical, step-by-step Dry Build System.

To save double handling and reduce material waste, Arcoplast panels are delivered to site, pre cut ready to install or can be supplied in designated lengths.

To cut and shape panels on-site, regular power tools and hand tools are used.

Fasteners are used in the installation process but never penetrate the primary barrier.

Brief description

A-2020 structural adhesive is used to adhere panels to framing and to bind panels together using the Arcoplast spline system. While A-2020 cures, panels are held in position with VHB tape. Full curing time is 4 hours.

A-1010 Bio-Seal is used to seamlessly seal and finish panel joints, MEP penetrations and surface mounted direct attachment of fixtures.

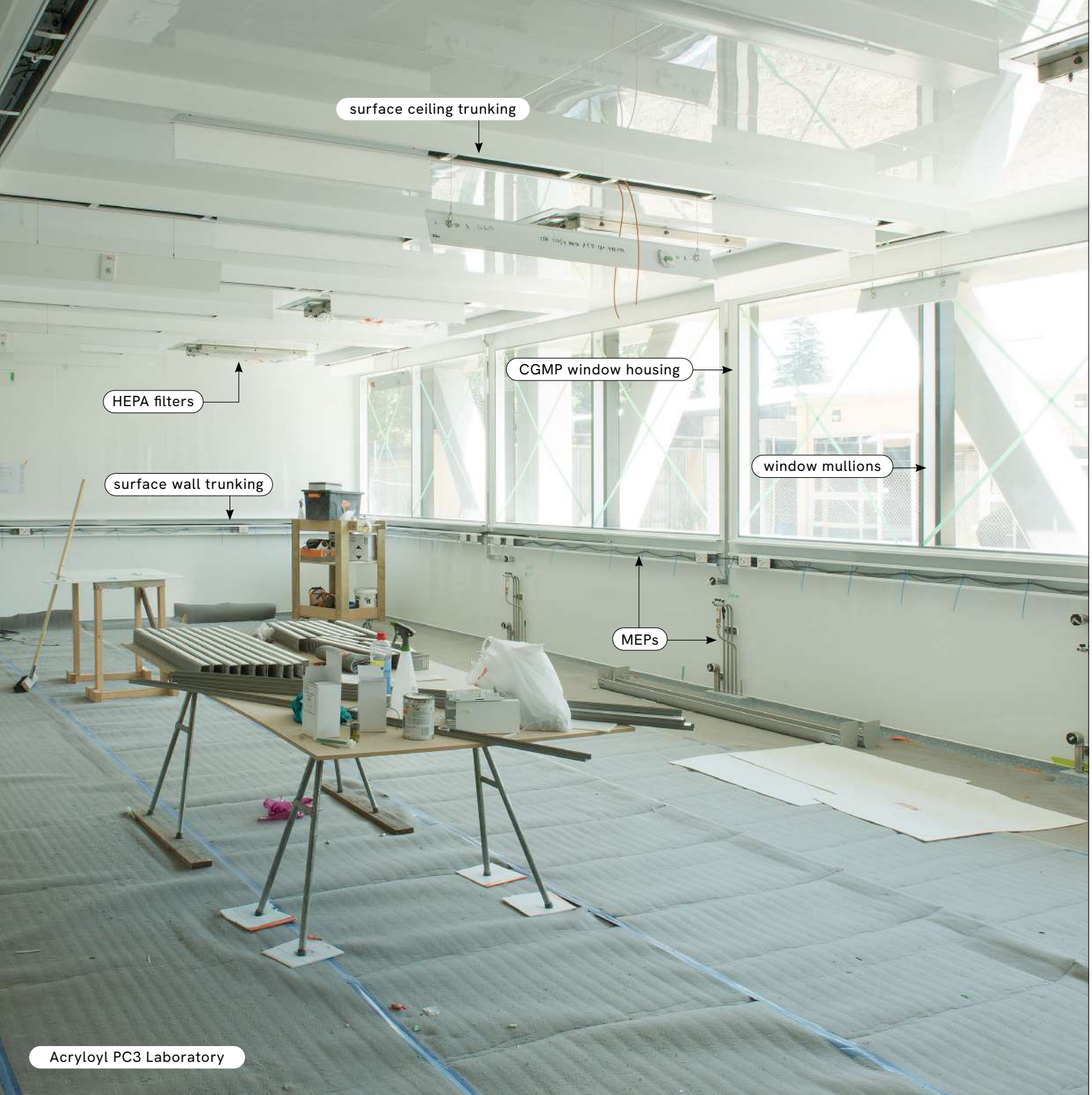
Why Mockup?

Aspects of functional design

Client comment regarding the mockup room :

" This was the best investment, money well spent. Throughout the job based on the different outcomes in the mockup-room, we were able to make informed decisions prior to the build, saving significant costs in time and materials ... "

Mock-up room : 12.5mm Acryloyl primary barrier



Acryloyl PC3 Laboratory

Integration

Complex systems of pneumatic doors, HEPA filters, surface-mounted trunking, CGMP window housings and complex MEP services, present challenges across multiple levels.

Integration is not just inserting equipment into a space, everything must function on many levels : Pneumatically, the room must function as designed; physically and mechanically the Primary Barrier must maintain its integrity; and Biologically the barrier must function at a microscopic level to maintain containment integrity.

Not every project requires a mock-up room, but when used, it enables detailed interface checks, definition of tolerances, the coordinated refinement of installation methods and the development of team workflows. In tightly coordinated builds such as BSL-3 and BSL-4 laboratories, construction methodology is a critical factor.

The project end goal : Ensure the highest standards of cleanroom compliance and operational standards.

TR35 pultruded ceiling grid, fitted with iPanel insulated layin ceiling panels

Crew

We know, for many of the crew this will be their first experience building an Arcoplast high containment primary barrier laboratory.

Documentation
Arcoplast products are supported by training manuals and technical documents.

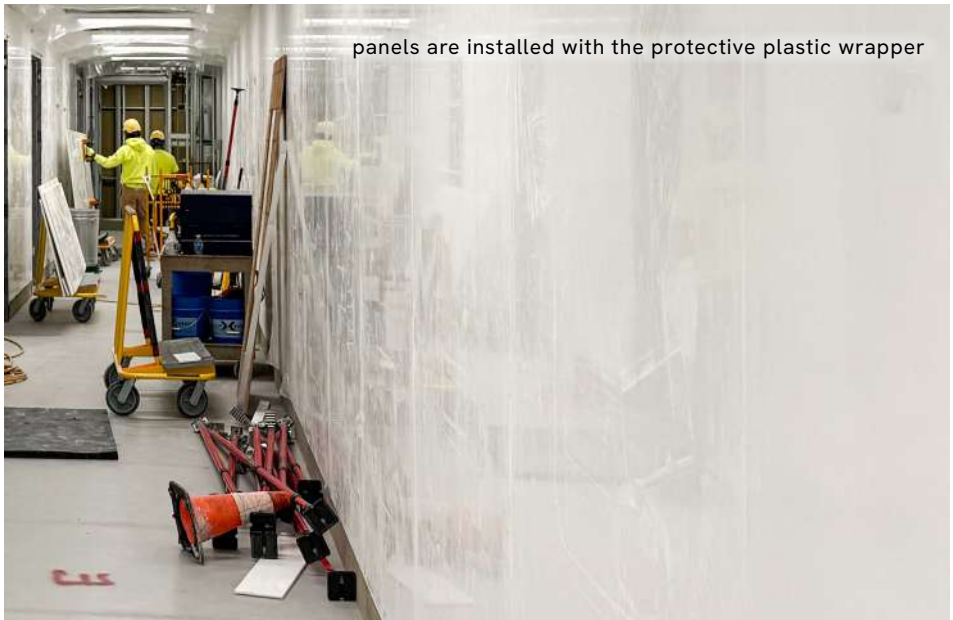
Training Courses
Arcoplast offer step-by-step training courses tailored to each aspect of the Dry Build Systems for : CL-3, CL-4, PC3, PC4, ABSL-3, BSL-3Ag, BSL-3, BSL-4 Primary Barriers. Also there are training courses for the Arcoplast TR35 FRP lay-in ceiling panel grid system.

On-Site Supervisors
Arcoplast On-site supervisors are trained and experienced tradespeople who work alongside contractors to ensure guaranteed outcomes.

Skilled Labour Database
If you need experienced crew, Arcoplast maintains a database of skilled tradespeople in the USA and around the world.

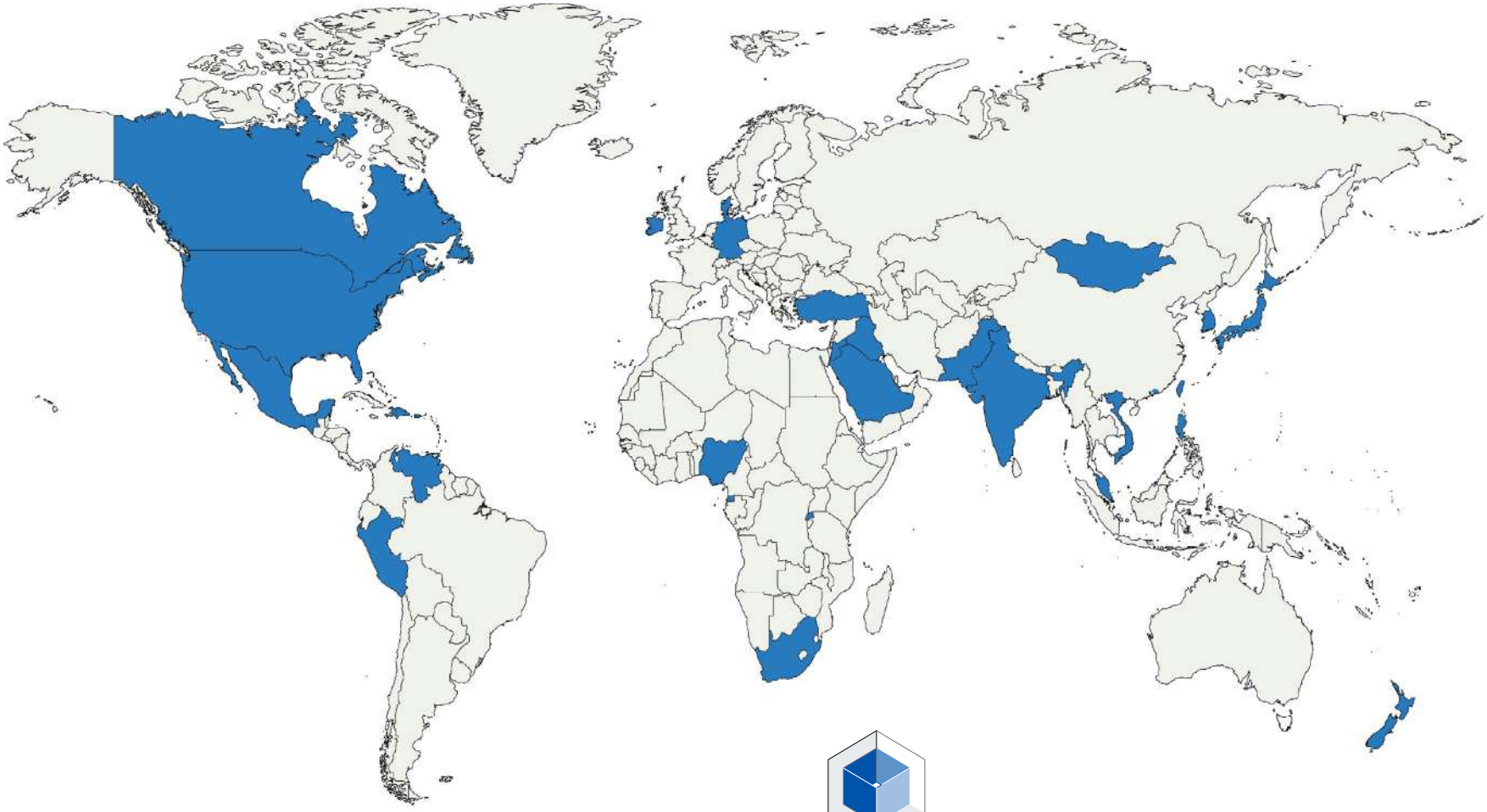
Quality Control
Arcoplast primary barrier installations must be carried out by skilled experienced trades people.

onsite application : A-1010 Bio-Seal three in one - Adhesive Sealant Finishing compound



panels are installed with the protective plastic wrapper

A-2020 Structural Adhesive



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