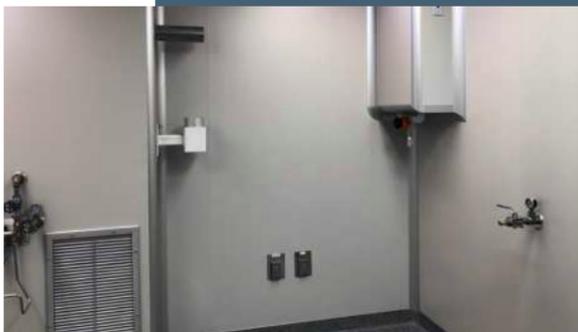


# NICOMAC MANGINI MODULAR CLEANROOMS



**NICOS**

**MANGINI U.S.A.**



Since 1985 **Nicos Group Inc.** has been one of the North American market leaders in the design and build of clean rooms suitable for non-certified and certified (ISO and GMP) manufacturing and assembly areas. Part of the Mangini Group since 2023, the New Jersey-based company now supplies and installs **movable partitions** – FSC CoC certified and equipped with seismic, fire, acoustic and environmental certification – and **process equipment**, for a wide range of sectors: pharmaceutical (in FDA/EMA approved environment), workspace, healthcare, EV, life sciences, hospitality and more.

From the full design and build turnkey, to the supply of a single wall system for a small compounding pharmacy area, modularity is our mission.



3 production sites

65 countries served

9 patented systems

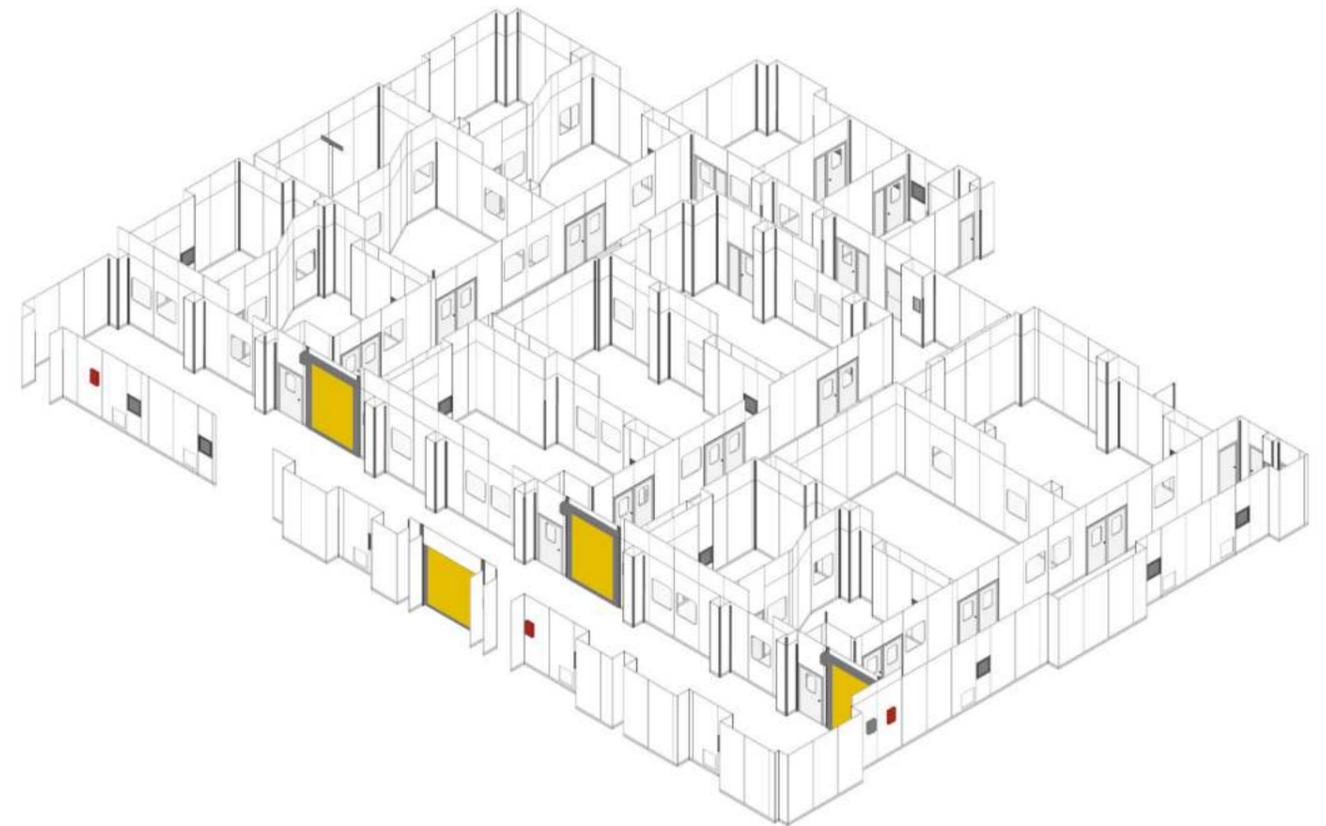
1,800+ successful projects

40+ years of experience

155 employees



**NICOS**  
MANGINI U.S.A.



### Federal Standard 209E Airborne Particulate Cleanliness Classes

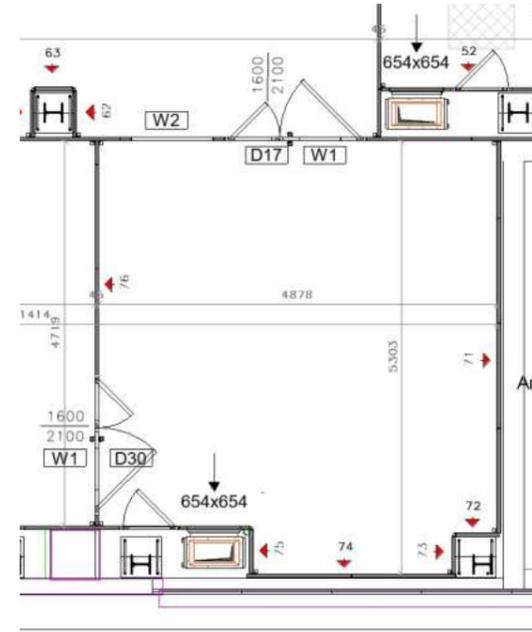
CLASS	NUMBER OF PARTICLES PER CUBIC METER BY MICROMETER SIZE ISO 14644-1						FED STD 209E (0.5 µm)		EMA
	0.1 µm	0.2 µm	0.3 µm	0.5 µm	1 µm	5 µm	English Cu ft	Metric	
ISO 1	10	2	-	-	-	-	-	-	-
ISO 2	100	24	10	4	-	-	-	-	-
ISO 3	1.000	237	102	35	8	-	1	M 1.5	-
ISO 4	10.000	2.370	1.020	352	83	-	10	M 2.5	-
ISO 5	100.000	23.700	10.200	3.520	832	29	100	M 3.5	A / B
ISO 6	1.000.000	237.000	102.000	35.200	8.320	293	1.000	M 4.5	-
ISO 7	-	-	-	352.000	83.200	2.930	10.000	M 5.5	C
ISO 8	-	-	-	3.520.000	832.000	29.300	100.000	M 6.5	D
ISO 9	-	-	-	35.200.000	8.320.000	293.000	-	-	-

### Nicos Group Inc.: your one-stop supplier for all your cleanroom needs

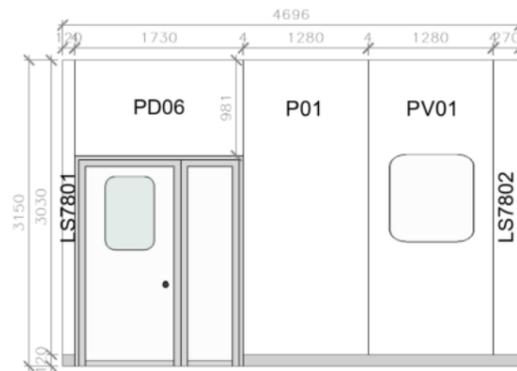
Building Information Modeling (BIM) is the most advanced process of creating and managing information for built asset and cleanroom in the Architecture, Engineering and Construction industry (AEC). That process allows to plan, verify and prevent any possible interference among all system at site and managing the life cycle assets (Structural, Civil, MEP).

## Project Design

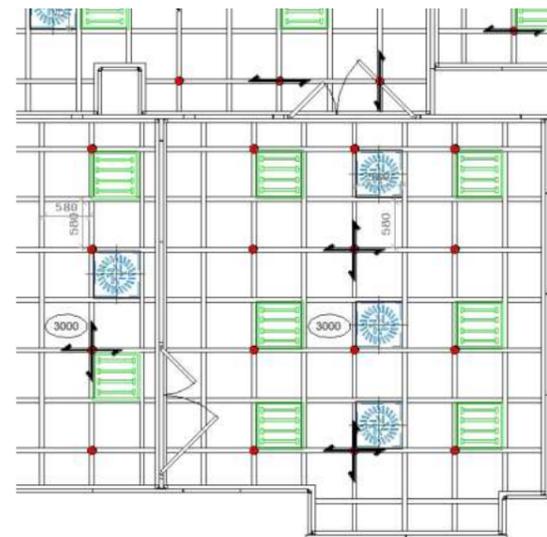
Drawings are prepared in house based on existing documents or on-site survey carried-out by Nicos Engineers. Nicos will supply, as standard, the following project drawings: rooms layout, walls front view, ceiling layout in three different issues (for customer comments and approval, for construction and as built).



Rooms layout



Walls front view



False ceiling layout

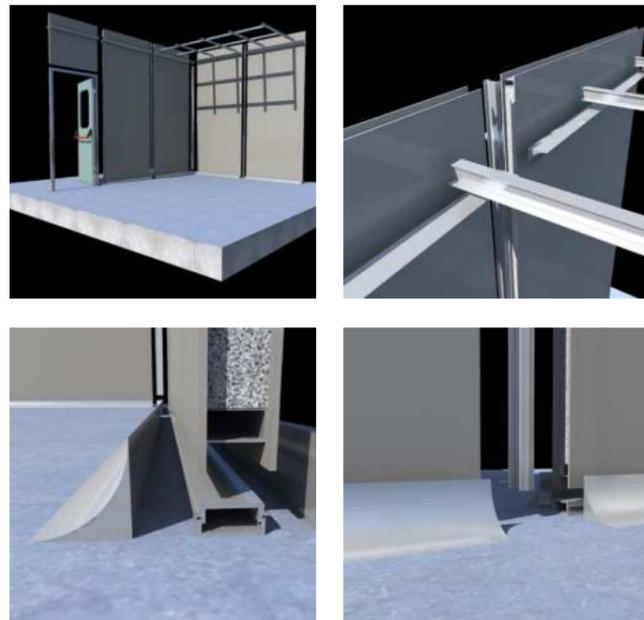
## The Modular Way

The modular panel system allows maximum architectural design and construction flexibility. Nicos Group services for your project can be modulated and customized according to your needs:

- Turn key design and build supply
- Full cleanroom design, MEP supply by others
- Basic design and cGMP consulting
- Architectural turnkey supply (walls, doors, ceilings, accessories) and install.
- Modular system material supply and installation supervision

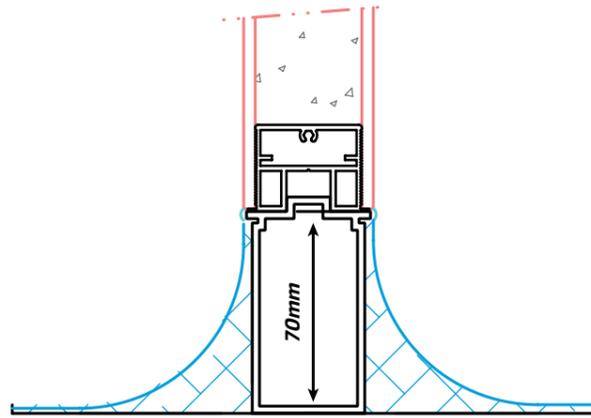
## Flexibility at every step

- Flexibility in modularity
- Flexibility in materials and solutions
- Flexibility onsite during installation
- Flexibility "Day 2" with non progressive panels for leave outs and openings
- Flexibility in project sizes and dimensions

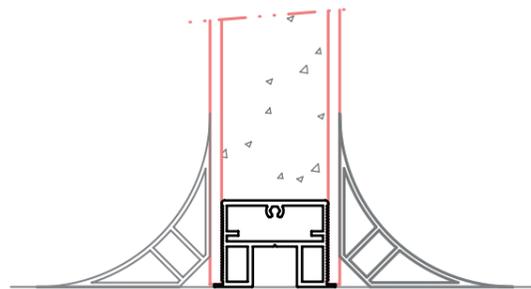


The installation teams are certified by Nicos GROUP through continuous checks on competence, efficiency, professionalism, safety and through constant training. During the design, construction and installation, our expertise and the QA Nicomac certified quality system for 25 years ensure the projects success.

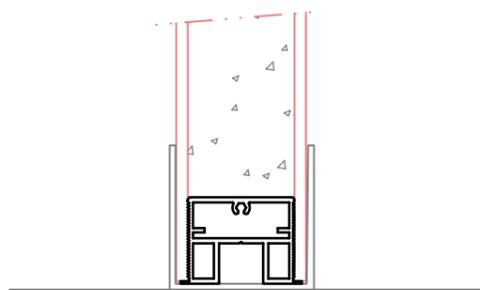
## Floor to wall connections



Epoxy resin floor smooth transition



Aluminium coving profiles at sight applied after floor treatment

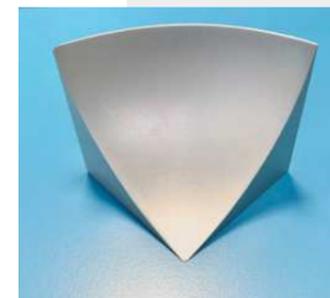
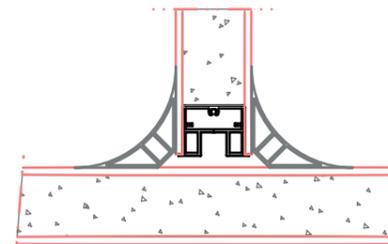
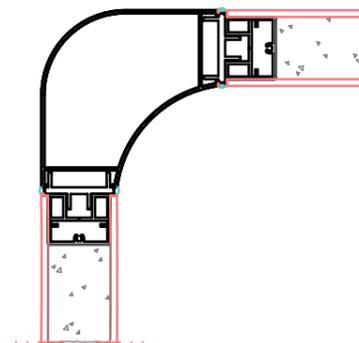
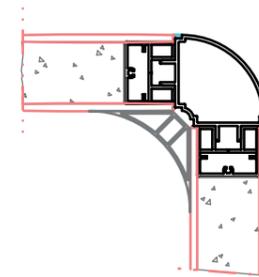
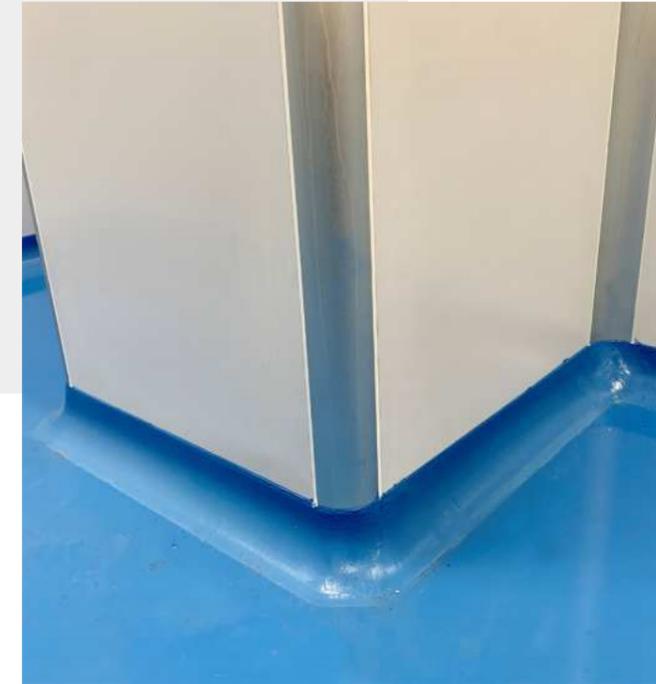


Aluminium kickplate for not classified areas



## Corner pieces and special connections

Round solutions for internal and external vertical corners



Internal corner



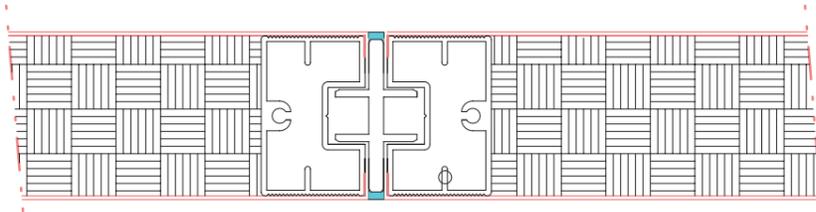
External corner



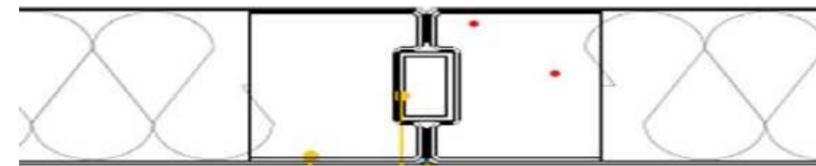
Terminal connection for doors

# Easy to disassemble non-progressive Wall to wall connections

Easy solution for internal and external vertical corners

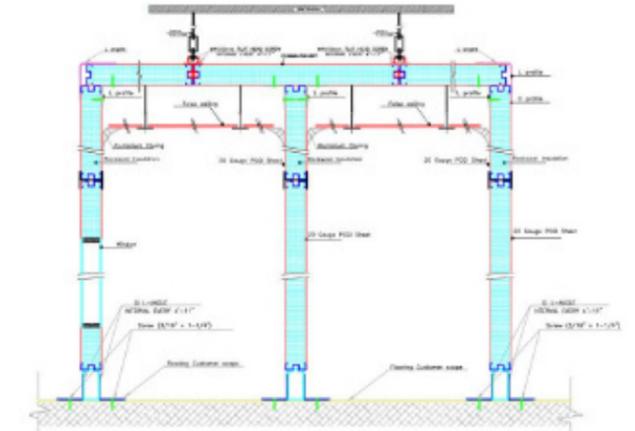
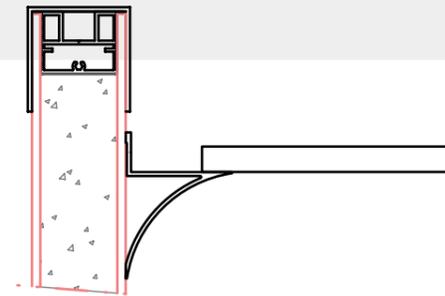


Silicone or polyurethane glue caulking



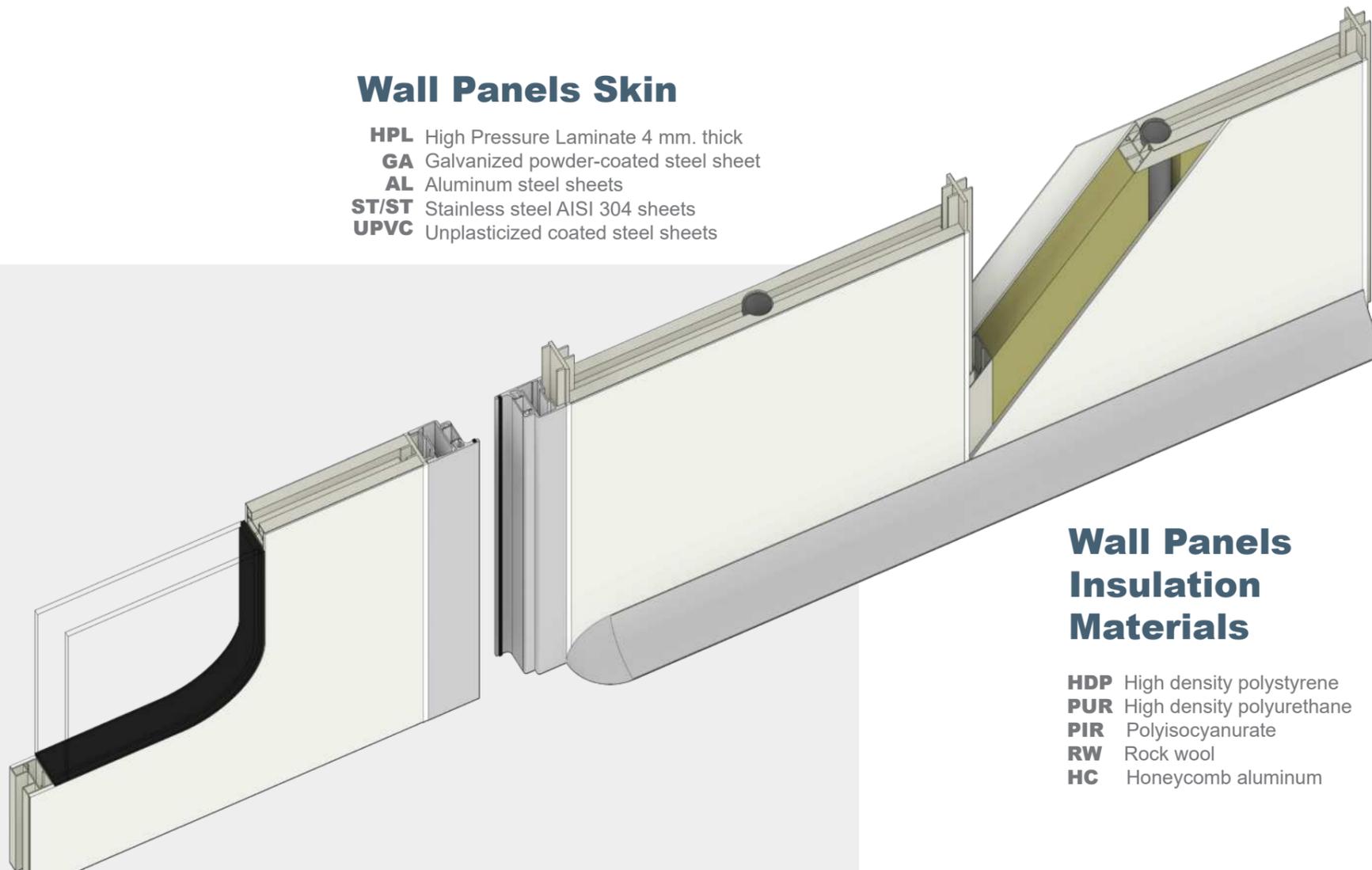
Cold weld connection

# Wall to ceiling connections



## Wall Panels Skin

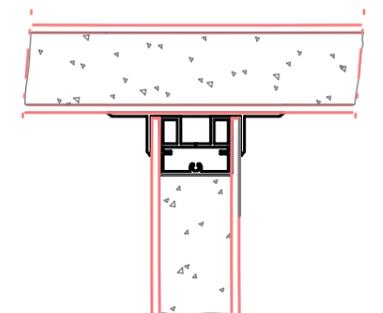
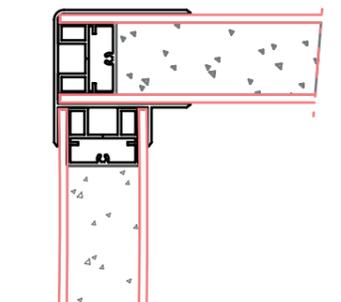
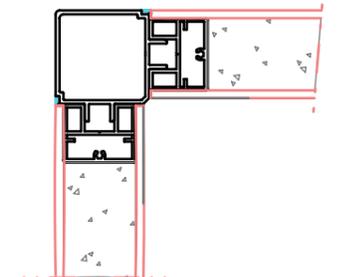
- HPL** High Pressure Laminate 4 mm. thick
- GA** Galvanized powder-coated steel sheet
- AL** Aluminum steel sheets
- ST/ST** Stainless steel AISI 304 sheets
- UPVC** Unplasticized coated steel sheets



## Wall Panels Insulation Materials

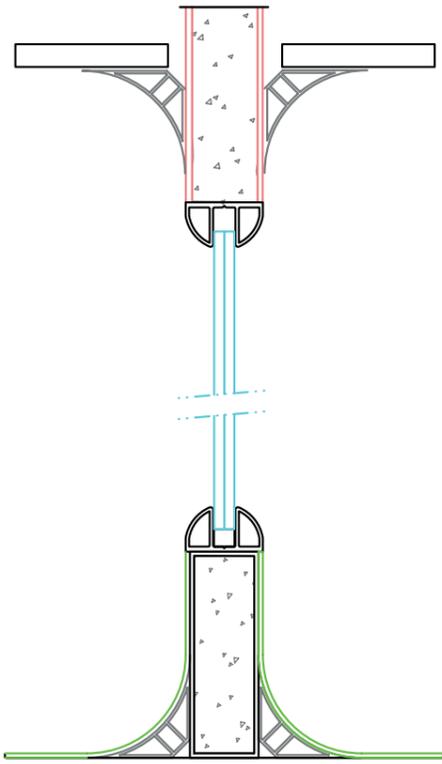
- HDP** High density polystyrene
- PUR** High density polyurethane
- PIR** Polyisocyanurate
- RW** Rock wool
- HC** Honeycomb aluminum

## Air chases false columns



Stainless  
steel walls, doors  
and ceilings





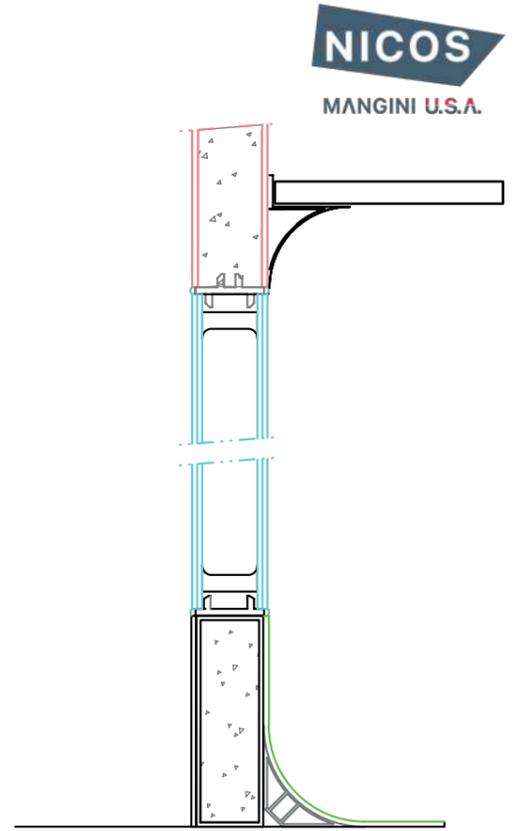
1/2" - 12 mm thick glass wall

## Glass Walls

Can be supplied in any size

Glass walls are adopted in the pharmaceutical industry where it is necessary to inspect the rooms without having to enter with the risk of bringing contamination.

Glass walls allow greater illumination to the cleanroom areas, ensuring operators to work in a comfortable environment. Operators tend to be much more careful towards wall system when glass walls are used.



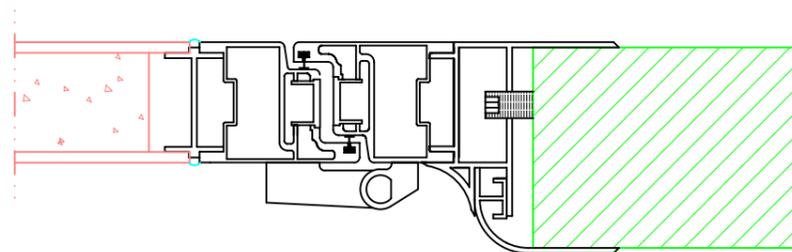
Windows flushed to wall





## Cleanroom Doors

Doors with rounded profiles, no visible screws, double gaskets in the frame and in the leaf with automatic drop seal at floor allowing a full tight system.



Door air-tightness is a fundamental aspect for the calculation of the ventilation system in a clean room. In a cleanroom the only point of air loss is through the doors. Nicos designs door profiles using a CFD software to minimize losses.

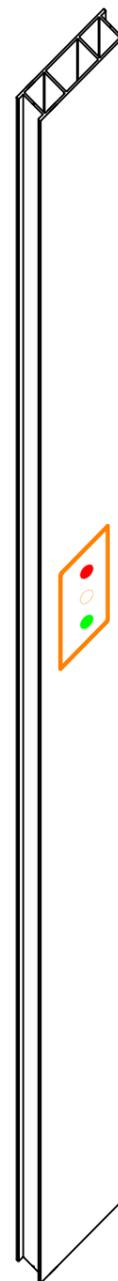
## Automatic Roll-up Doors



Air-tight roll-up door suitable for ISO 7 environments (in accordance to ISO 14644 -14)



Roll-up door suitable for CNC or ISO 8 environments.



Light indicator with open microwave, touchless system and emergency button



Open push button



Technical Aluminum panel for installing roll-up doors and raceways for electrical cables

## Access Controls & Interlocks

### Cleanroom door accessories



Push plate



Stainless steel sanitary handle



Stainless steel fixed handle



Ergonomic handle



Anodized fixed knob



Anti-panic handle



Internal self-closing system



Stainless steel fixed knob



External self-closing system



Interlocking Systems



Light indicator with push to open and emergency button with stainless steel plate

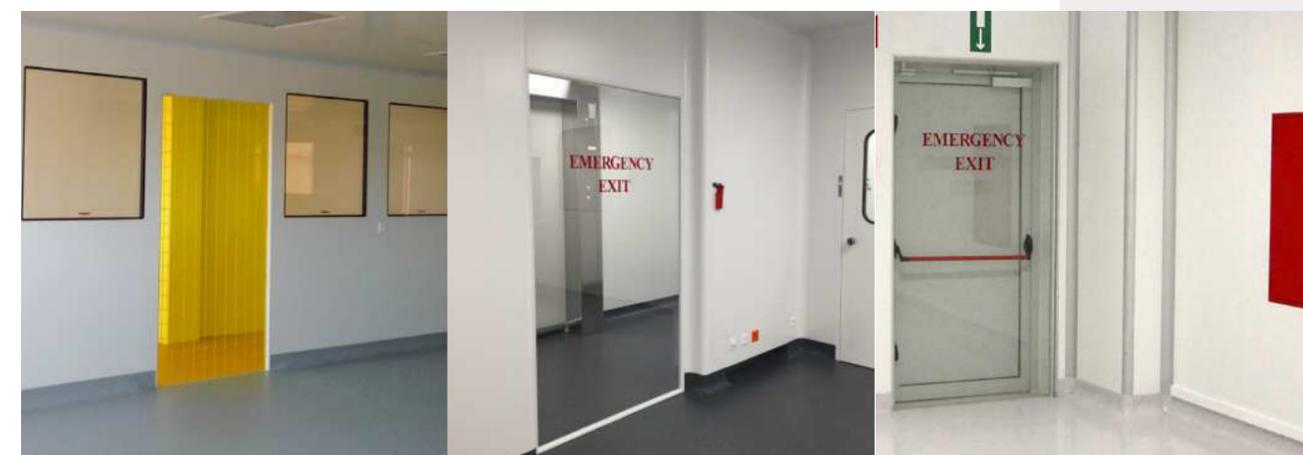


Badge reader

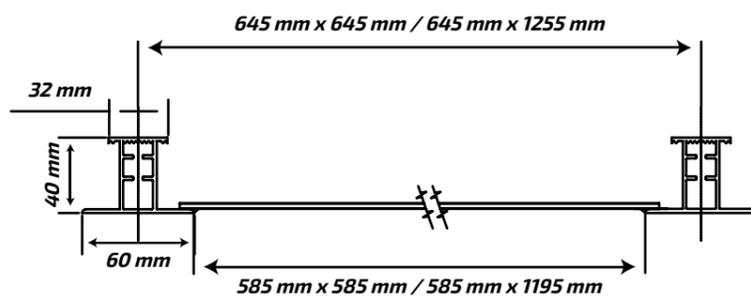


Numeric key pad

## Emergency Exits



## T-Grid Cleanroom ceiling

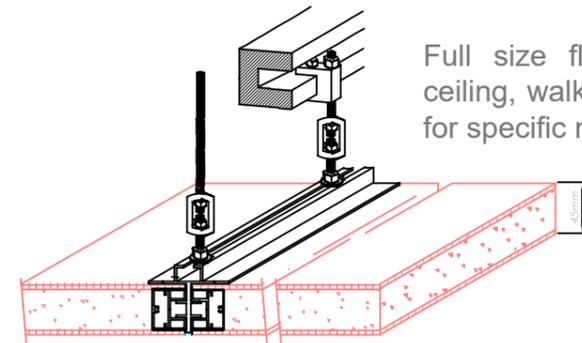


### T-Grid walkable and not walkable

Nicos ceiling systems are tailored to specific needs. This modular solution offers maximum flexibility for HEPA filters and lights fixture positioning. Different types of panels and tiles are available, both single sheet and sandwich types.



## Seamless WALK ON Cleanroom ceiling



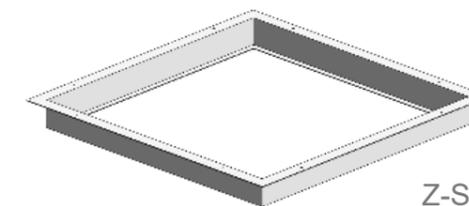
Full size flush panels false ceiling, walkable type, tailored for specific needs.



Technical area access door.



Live Load - 35 Pounds /SQf  
(160 kg/Sqm)



Z-Shape metal frame for HEPA filters and lights installation.

## Lighting



LED lights embedded into false ceiling profiles



Sterile cleanrooms LED lights.

## Special film for cleanroom refitting

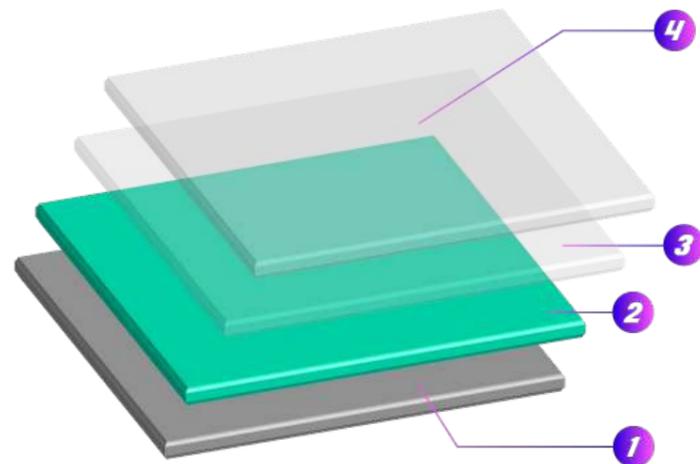
An efficient solution for renew the surface of walls, furnitures and structures.



Before application



After application



- 1** PRESSURE SENSITIVE ACRYLIC ADHESIVE LAYER
- 2** POLYMERIC PVC LAYER IN THE CHOSEN LOGO, COLOR OR IMAGE
- 3** ADHESION LAYER BETWEEN BASE AND LAMINATION
- 4** GLOSSY OR OPAQUE TRANSPARENT PROTECTIVE LAMINATION LAYER

## Seismic certification on modular walls and ceilings

Mangini-Nicos has certified all modular product lines to withstand major seismic shocks. The obtained certification also accounts for partitions, false ceilings and systems.

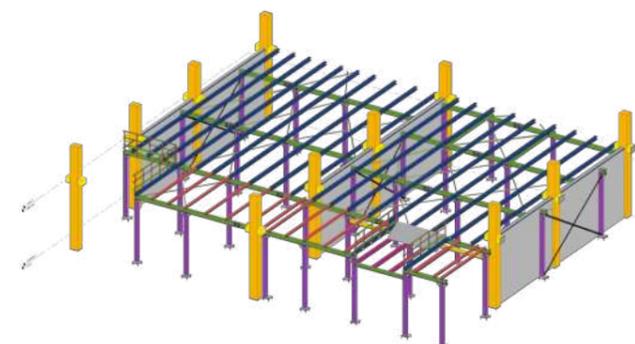


**AC156 Seismic Certification**  
**Shake-Table Testing of Nonstructural Components**  
**Approved october 2010, editorially revised December 2020**

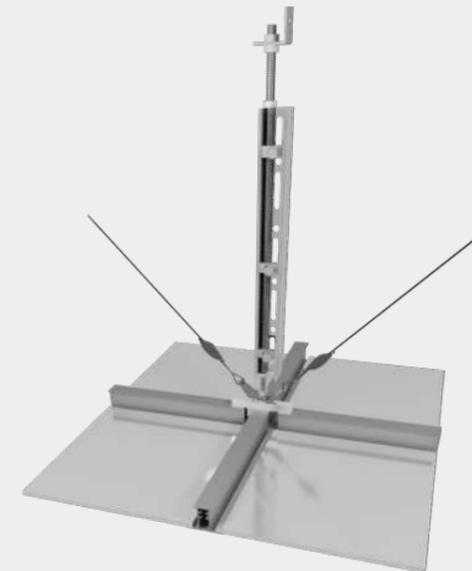
The AC-156 seismic test specification defines the testing and requirements for equipment installed onto newly constructed or renovation projects in the residential and commercial industries.



## Metal support structure to support your cleanroom system ceiling



All Mangini Seismic Certification tests made on real-life shaking platform.



# PAL (Personnel Air Lock) gowning room

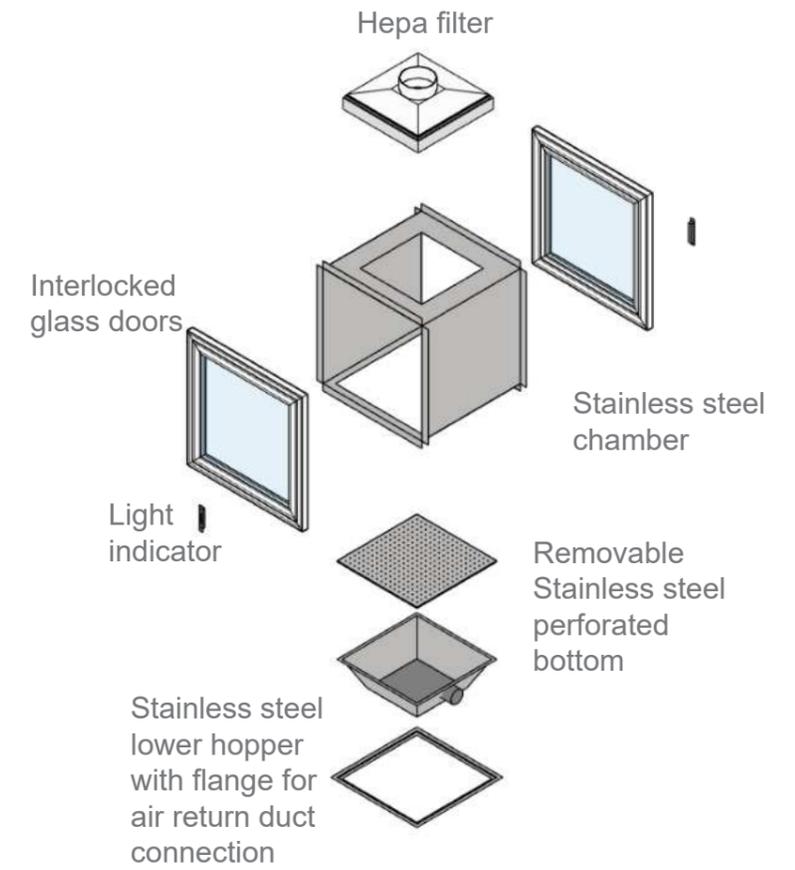


## Material Pass-through

A Static material pass-through box

B Passive and dynamic pass-through box to be connected to HVAC system

C Stand-alone dynamic pass-through box that includes filter and air fan



**Accessories Integration**



Digital synchronized clock



Integrated stainless steel sink

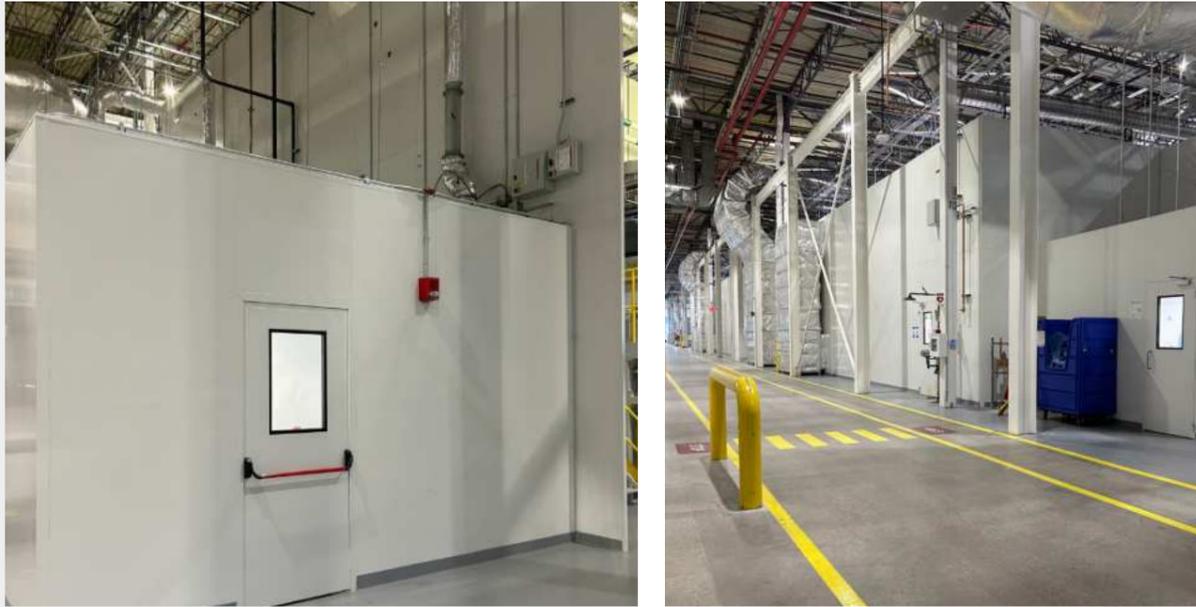


RABS (Restricted Access Barrier System) with Nicomac Europe walls and pass box



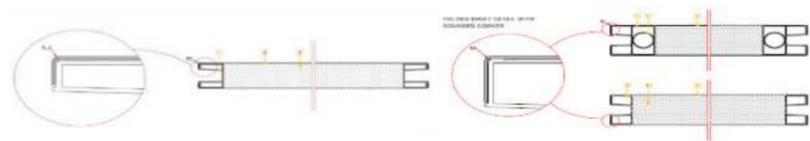
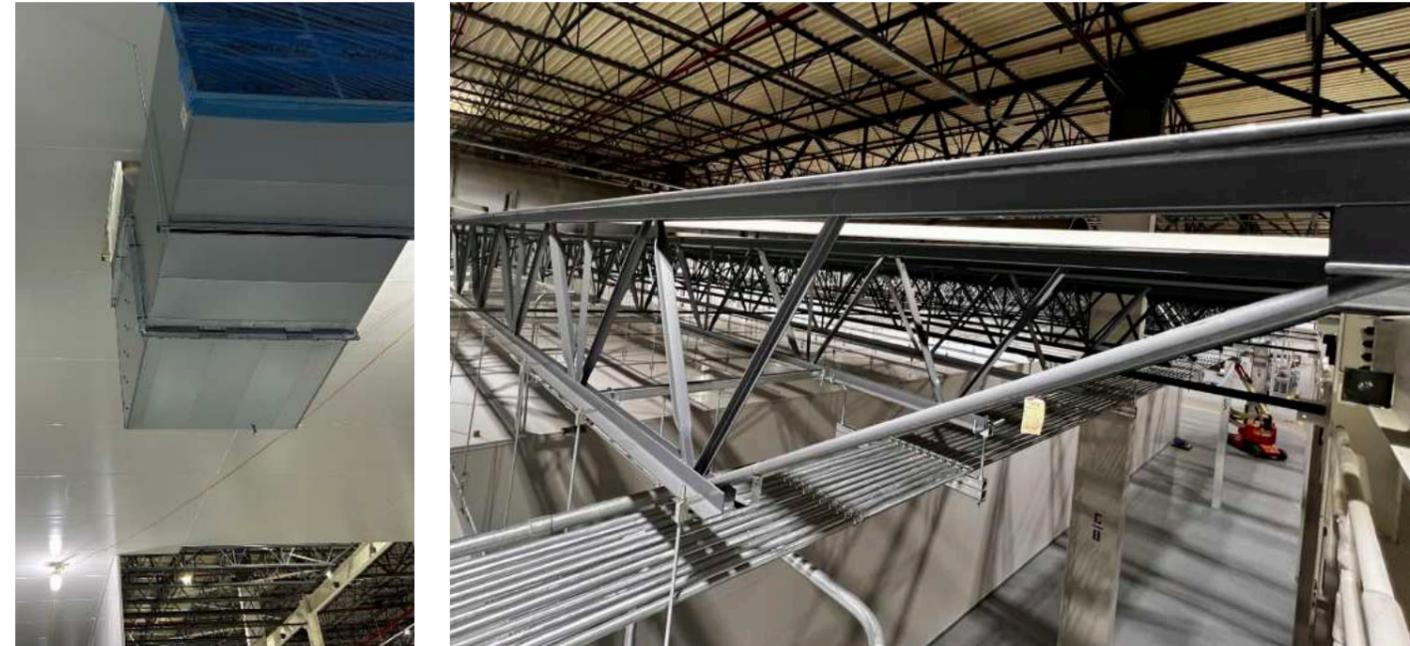
## IMP Panel

top-of-the-line insulated metal panels for wall and ceilings designed specifically for cleanroom and dry room applications in EV Battery Manufacturing.



## Ceiling Options

Multiple options for ceilings for IMP applications: walkable seamless panels ceilings, plenum systems with lid ceilings and cleanroom-rated drop ceilings.

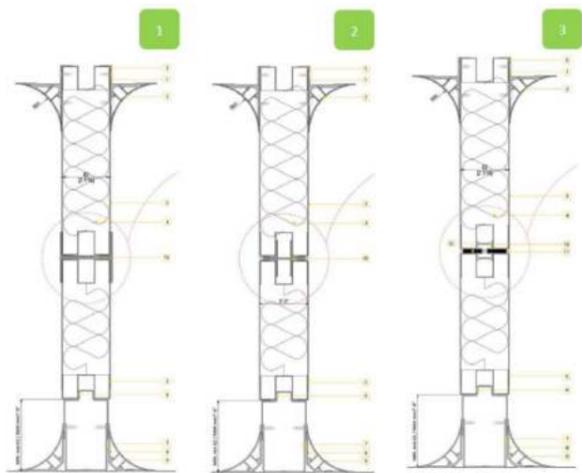


## Joint Options

The Nicos Mangini IMP system have several different joint and leave out options, to be applied in different ways (Horizontally/Vertically) that allow to reach up to 60 ft height projects



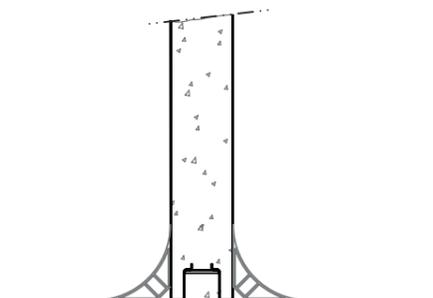
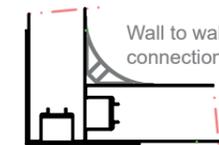
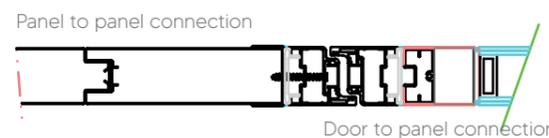
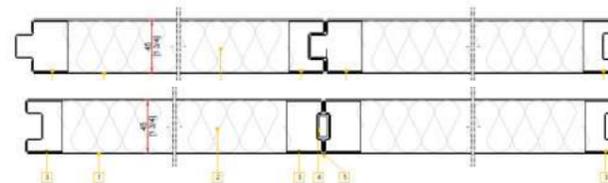
Leave-outs and openings



- 1) External beam joint
- 2) Internal H joint - horizontally and vertically
- 3) Internal movable joint



**A convenient solution for every need**



Floor to wall connection

**Some of our recent project experiences:**



**Higher Education Labs**  
DNA Lab Renovation in New Haven, CT



**Vaccine Manufacturing Facilities**  
Very compact and efficient vaccine facility for Inventrise in Seattle, WA



**Compounding Pharmacies**  
Cleanroom for Compounding Pharmacy at the University of Nevada



**EV Battery Gigafactories**  
65K Sq.Ft. EV Battery Manufacturing Plant in Detroit, Michigan



**Vivariums and Animal Research facilities**  
Special Vivarium design for Walkable ceiling and Cleanroom system for Pfizer in Groton, CT



**Transition from Research to manufacturing**  
Transition from a research facility to a manufacturing one at Kalexsyn, Michigan



Nicos - Mangini USA Headquarters in Norwood, NJ



Nicomac manufacturing plant in Liscate (Milan), Italy



Mangini Manufacturing Plant in Putignano, Italy



## GET IN TOUCH

NICOMAC MANGINI MODULAR CLEANROOM

phone : +12017689501  
 Nicos Group Inc.

email : [info@nicosgroup.com](mailto:info@nicosgroup.com)  
website : [www.nicosgroup.com](http://www.nicosgroup.com)

80 Oak St. Norwood NJ  
07648 - USA