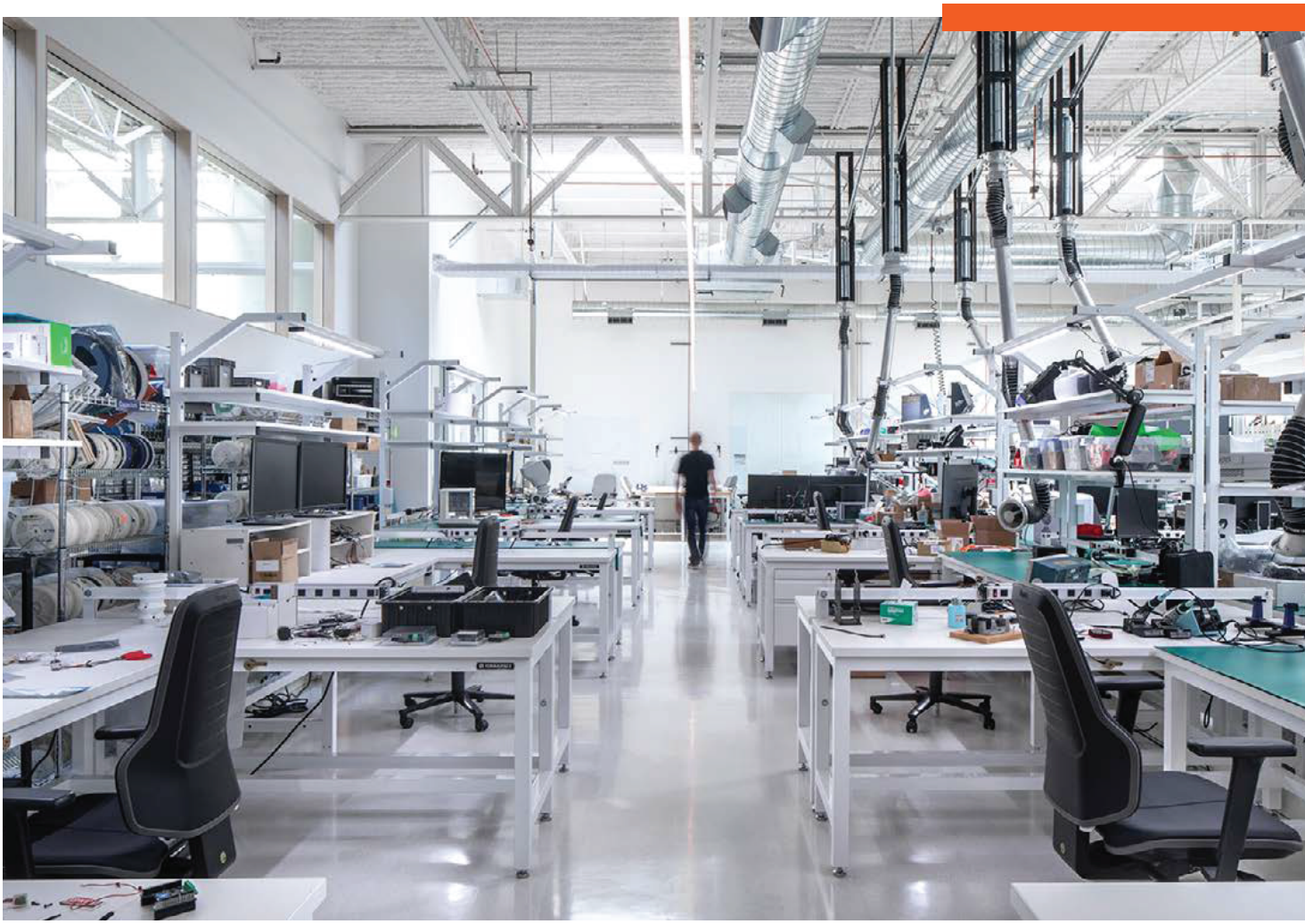
ESD WORKBENCHES

Lookbook



FORMASPACE

Contents

03 ESD System Description

04 ESD Workbench Components

04 ESD Grounding Lug Components

05 Electrical Properties

06 Physical Properties

07 IT Lab

09 Testing Lab

11 Tech Lab

13 Innovation Lab

15 Custom ESD Workbenches

ESD System Description



The ESD (Electrostatic Dissipative Laminate) HPL and grounding lug system creates a static safe workspace that allows users to securely work on sensitive electronic equipment.

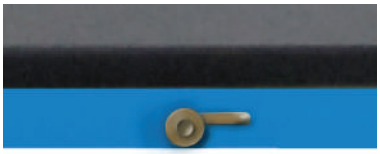
The ESD HPL and grounding lug system offer low electrical resistance, absolute charge drainage, and zero voltage suppression. It dissipates a 5,000 volt static charge to zero in less than 0.01 second per FTM-101C at 5-95% relative humidity. It is resistant to most common solvents, hot solder, and fluxes.



ESD Workbench Components

- ESD Laminate – Carbon integrated throughout the laminate provides 106-109 ohms resistance with outstanding tolerance to wear and tear.
- Common Grounding Point – designed to maximize the interface between the grounding system and the ESD laminate.
- Rotating Grounding Hub – Prevents damage to wrist straps and allows freedom of movement for technicians.
- Resistive Wrist Strap – Provides 106 ohms of resistance.

ESD Grounding Lug Components



Rotating Grounding Hub
(Prevents wrist strap damage)



Common Ground Point



Wrist Strap
with 106 ohm Resistor

Electrical Properties

Test	Relative Humidity	Electrical Results
Point to Point Resistance *	60% - 40% 40% - 20% 20% - 10%	106 to 1 x 107 ohms 107 to 1 x 108 ohms 108 to x 109 ohms
Point to Ground Resistance *	60% - 40% 40% - 20% 20% - 10%	106 to 1 x 107 ohms 107 to 1 x 108 ohms 108 to x 109 ohms
Volume Resistance **	60% - 30% 30% - 10%	107 to 1 x 108 ohms 108 to x 109 ohms
Static Decay ***	50% 10%	0.01 sec 0.02 sec

* Per EOS/ESD - S 4.1

** Measured Face to Back at 72°F, 100 V with a LCD Megohmmeter, Item No. 19770, NFPA Electrodes (2.5 inch diameter, 5 pounds)

*** FTMS 101C, Method 4046



Physical Properties

Test Method	Units	NEMA LD3 - 2005	Typical ESD Values NA28	NEMA STD* VGP	Typical ESD Values NA38	NEMA STD* HGP
Thickness	in. mm.		0.028 ± 0.003 0.7 ± 0.08	0.028 + 0.004 0.07 ± 0.1	0.036 ± 0.003 0.9 ± 0.08	0.039 ± 0.005 1.0 ± 0.12
Appearance		3.1	Complies		Complies	
Light Resistance		3.3	Slight effect	Slight effect	Slight effect	Slight effect
Cleanability	Stain 1 - 10 Stain 11 - 15	3.4	5 No effect No effect	20 (max) No effect Moderate effect	5 No effect No effect	20 (max) No effect Moderate effect
Boiling Water Resistance		3.5	Moderate effect	Slight effect	Moderate effect	Slight effect
High Temperature Resistance		3.6	Slight effect	Slight effect	Slight effect	Slight effect
Ball Impact Resistance	in. mm.	3.8	25 635	20(min.) 500(min.)	35 889	30 (min.) 750(min.)
Dimensional Change		3.11				
Machine Direction	%		0.4	1.10 (max.)	0.4	1.10 (max.)
Cross Direction	%		0.8	1.40 (max.)	0.8	1.40 (max.)
Wear Resistance	cycles	3.13	1000	400 (min)	1000	40 (min.)
Formability		3.14				
Outside Radius	in. mm.		1/2 13	1/2 (min.) 13 (min.)	5/8 16	5/8 (min.) 16 (min.)
Inside Radius (Cove)	in. mm.		3/16 5	Not Applicable Not Applicable	3/16 5	Not Applicable Not Applicable
Blister Resistance	sec.	3.15	50	40 (min.)	60	55 (min.)

*Formaspace ESD is not covered by ANSI/NEMA LD3 specifications; however, the physical properties are similar to VGP and HGP grades.

IT Lab

In response to urgent needs, Formaspace collaborated with CTA Architects to address Dell's server testing challenges. Our custom solution, including condo racks, moving shelf benches, and ergonomic ESD workstations, optimized spatial efficiency and workflow. This innovative approach resulted in construction savings of $84 million on a $100 million budget, with additional savings in material costs and labor. Our Benchmarx™ design, featuring electric hydraulic height adjustability and an integrated ESD monitoring system, not only improved efficiency but also ensured the safety and integrity of Dell's high-value R&D servers.





IT Lab



Testing Lab

At Belkin's Global Headquarters in LA, Formaspace has played a pivotal role in providing cutting-edge lab furniture solutions. Within these labs, engineers meticulously design and test products amidst collaborative workspaces and advanced equipment. From soldering stations to packaging workshops, every aspect is tailored for innovation and sustainability. Belkin's commitment to quality and efficiency is evident in the state-of-the-art lab furniture provided by Formaspace, fostering a culture of excellence in product development.

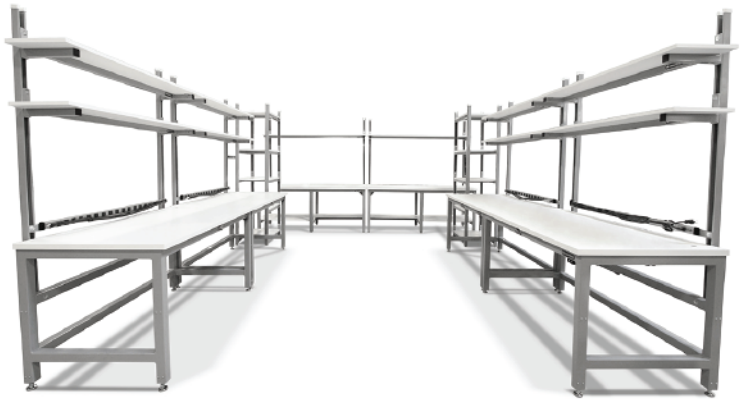


Testing Lab



Tech Lab

In this Silicon Valley lab, we prioritize ergonomics and productivity enhancement for laboratory technicians. Our dry labs, or tech labs, feature height-adjustable workstations equipped with electronic hydraulics, offering customized comfort for each user. With over 20 outlets per workstation, we ensure seamless connectivity for various equipment and devices. Additionally, our workstations are designed to dissipate electrostatic build-up, ensuring a safe working environment. Built with future flexibility in mind, our lab setups adapt to evolving needs, maximizing efficiency and innovation.





Network engineers, systems administrators, web developers, and network technicians collaborate seamlessly within our U-shaped computer workstation. Designed for PC repair, support, and network security tasks, this versatile setup fosters teamwork and efficiency among diverse IT professionals.



Tech Lab



We worked with Plexon's Engineers and Scientists building multiple labs for their Dallas, TX, facility. Starting with a back-to-back Benchmarx™, they created ESD testing stations for electronics. The benches have two 6" drawers, plastic laminate top, upper, and lower shelves. We also built Basix™ workbenches that can carry fume hoods up to 1000 lbs. Upon need, the weight capacity can be increased to 2000 lbs or more if a heavy-duty frame is used. The casters give mobility to the unit and are strong enough to hold large, expensive equipment.

The small drawer and lower shelf offer additional storage. The front row workbenches are equipped with 2 small drawers, vibration isolation systems, and upper, and lower shelves, which are mainly used for biological sampling. The workbenches in the back have ESD kits installed and are generally used as an electronic testing station.





Innovation Lab



The UTDesign Studio, fully furnished by Formaspace's hardwood top workbenches, serves as a place where students and corporate partners come together to create, innovate, design, build, and learn. Spanning over 30,000 square feet, this dynamic space provides room for 56 project stations, fostering collaboration and hands-on learning experiences.



Innovation Lab







Custom ESD Workbenches



Benchmarx™ with Upper Pull Out Shelves



Custom Louvered Panels on Long Benchmarx™

Custom ESD Workbenches



Benchmarx™ with Blue Frame



Detachable Mobile Cart Station

Custom ESD Workbenches



Benchmarx™ with Monitor Mounts



ESD Workbench with Flat & Tilted Shelf Combo

Custom ESD Workbenches



Large ESD Mobile Work Table



Custom ESD Cart with Mobility

Custom ESD Workbenches

Electronics Assembly Workbenches with Pegboard & Upper Storage







Custom ESD Workbenches

Electronics Assembly Workbenches with Pegboard & Upper Storage













Every project is different.

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