

Optical Tables

Working Tops:

These high-quality steel honeycomb optical tops consist of a steel honeycomb core laminated with steel top and bottom skins to provide high stiffness with respect to low weight. The steel honeycomb core is sandwiched between two faces (laminated with steel bottom and ferromagnetic stainless steel top skins) and finished with side panels.

Working Surface:

The top skins are stretcher-leveled and pressure bonded to achieve excellent top flatness. Then they are lightly sanded with an orbital pattern to remove burrs and provide a non-reflecting finish.

Honeycomb Core:

The honeycomb core is made of 0.3mm thick steel, plated to prevent corrosion, closed-cell structure with basic cell size of 3cm², giving a core density of 3×10^{-4} kg/cm³.

Material:

The skins, core and side panels are all made of steel so as to have the same coefficient of thermal expansion. Our tops expand and contract as a whole, assuring structural integrity and preventing long-term internal stress buildup even in situations with repeated temperature cycling.

Bonding:

The bonding process is critical to long term performance. The honeycomb core, skin and side walls are rigidly and permanently bonded using a specially formulated high strength adhesive. This adhesive has no viscoelastic creep and hysteresis.

Sealed Mounting Holes:

Standard mounting holes on the top are tapped (either M6-1.0 on a 25mm grid or 1/4-20 on one inch grid) and slightly countersunk to remove ridges and burrs. The sealed mounting holes are in register with open cells in the honeycomb core assuring that all mounting screws can be inserted to full depth. Spills of water, solvents or hazardous chemicals can be readily cleaned up, and small objects which fall into a hole can be retrieved.

Side Panels:

Side panels serve to enclose the core of the table tops. They are usually not a structural element of top but aesthetic. Side walls are acoustically damped, formed steel providing structural integrity.

How To Select Top Thickness:

In general, top thickness is proportional to static rigidity and dynamic natural frequency, it does not affect compliance directly. A top length to thickness ratio of 10:1 is a safe rule for most general applications, but in case of very sensitive optical experiments at severe environments, it might be 7:1. Small 50mm thick optical tops should be supported on uniform flat surfaces, not post mounts. But 100mm thick tops may be supported on post mounts.

All dimensions are in mm unless otherwise specified.

Optical Tables

Dimension		
W	D	H
900	900	100
1000	750	100
1200	600	100
1200	900	100
1200	1200	100
1500	600	100
1500	750	100/200
1500	900	100/200
1500	1000	100/200
1500	1200	100/200
1500	1500	200
1800	600	100
1800	750	200
1800	900	200
1800	1200	200
1800	1200	200
2000	1000	200
2000	1500	200
2400	900	200

Dimension		
W	D	H
2400	1200	200/300
2400	1500	200/300
3000	1200	200/300
3000	1500	200/300
3600	1200	200/300
3600	1500	200/300

