

SPACE TYPE: LABORATORY – (DRY) FOR MICRO-ELECTRONICS AND PHYSICS

Construction Criteria

The unit costs for Laboratory (Dry) space types are based on the construction quality and design features in the following table. This information has been generally organized under Unifomat headings. Items marked with a have a space-related cost impact on the building shell and core.

Category	
Interior Construction	
<i>Partitions</i>	
<i>General</i>	<ul style="list-style-type: none"> ■ ½" GWB on metal studs at 16" OC ■ Floor to ceiling grid
<i>Suite Perimeter and Public Corridor</i>	<ul style="list-style-type: none"> ■ Structural slab-to-slab ■ One layer 5/8" GWB both sides on metal studs at 24" OC ■ Acoustical insulation ■ 45 STC
<i>Enclosed Lab Module</i>	<ul style="list-style-type: none"> ■ Floor to ceiling with under floor plenum divider ■ One layer ½" GWB both sides on metal studs at 16" OC ■ Acoustical insulation
<i>Utility Shafts</i>	<ul style="list-style-type: none"> ■ 2 hr 50 STC Type X rated GWB shaft wall system with 1 layer 1" channel-mounted GWB and one layer ½" GWB outside face
<i>Telephone Closets, Communications Closets</i>	<ul style="list-style-type: none"> ■ Structural slab-to-slab ■ 5/8" GWB on metal studs at 24" OC
<i>Doors</i>	
<i>General</i>	<ul style="list-style-type: none"> ■ Solid core 1¾" painted metal doors 3'-0" (w) by 7'-0" (h) ■ Door frames will be a minimum 14 gauge metal frame construction ■ Hardware to be latch sets with levers
<i>Laboratory</i>	<ul style="list-style-type: none"> ■ Service door to be solid core 1¾" painted metal double door 6'-0" (w) by 7'-0" (h) with head and threshold bolts ■ Public entrance to be solid core 1¾" painted metal door 3'-0" (w) by 7'-0" (h) ■ Door frames will be a minimum 14 gauge metal frame construction ■ Hardware to be locksets with levers ■ Key locks
<i>Signage</i>	

Category	
<i>Room Signage System</i>	<ul style="list-style-type: none"> ■ Signage for life safety and public convenience within the functional areas of the tenant will be included in the unit costs and will be modular vinyl lettering on plastic laminate signage frame system with ADAAG compliant tactile Braille vinyl signage modules ■ Signage requirements within the tenant demised space related to their function will be provided by the tenant
Interior Finishes	
<i>Walls</i>	
<i>General</i>	<ul style="list-style-type: none"> ■ Low VOC semi-gloss paint with vinyl cove base
<i>Laboratory</i>	<ul style="list-style-type: none"> ■ Low VOC semi-gloss paint with vinyl cove base ■ Steel corner guards
<i>Floors</i>	
<i>Laboratory, Storage, Service Corridor</i>	<ul style="list-style-type: none"> ☑ Anti-static plastic laminate panel (on raised floor as part of building shell and core provisions)
<i>Ceiling</i>	
<i>Laboratory</i>	<ul style="list-style-type: none"> ■ Suspended 24" by 24" acoustical tile ceiling provided as part of building shell and core provisions
HVAC	
<i>Air Distribution System</i>	
<i>Laboratory</i>	<ul style="list-style-type: none"> ☑ Variable volume terminal reheat system with pre-filters and after-filters for 90% efficiency, and with terminal humidifier and reheat box, and with make up air handling unit with pre-heat and a pre-filter unit ☑ Lab modules to have positive pressure relative to other spaces; no return air from lab to other spaces
<i>Thermostat Controls</i>	<ul style="list-style-type: none"> ■ Provide individual room thermostats with override by building shell and core BAS
Fire Protection	
<i>Fire Suppression</i>	
	<ul style="list-style-type: none"> ■ Sprinkler system is part of the building shell and core provisions ■ Fire and smoke dampers to be provided in rated walls
<i>Laboratory Module</i>	<ul style="list-style-type: none"> ☑ Hand-held chemical emergency fire extinguisher in emergency equipment cabinet
<i>Fire and Smoke Detection</i>	<ul style="list-style-type: none"> ■ One fire alarm pull station by each egress point
<i>Fire Alarms</i>	<ul style="list-style-type: none"> ■ Audible and visible (strobe) alarm in each occupiable space (not including closets, storage rooms or coat racks)
Electrical	
<i>Electrical Outlets</i>	

Category	
<i>General</i>	<ul style="list-style-type: none"> ■ Wall mounted duplex outlets every 50'- 0" OC
<i>Lab Module</i>	<ul style="list-style-type: none"> ■ Provide 2-120v, 3 wire polarized grounding duplex outlets per 2 LF at counters with 20 amp capacity, and 2-208 single and 2-208 three phase; and 1-120v 1500w emergency power outlet per module
<i>Telephone Closet, Communications Closet</i>	<ul style="list-style-type: none"> ■ Two dedicated duplex outlets on emergency power, plus additional outlets for every 5'- 0" of wall space ■ Provide a separate 120-volt panel with master switch, and five 20-amp circuits
Lighting	
<i>General</i>	<ul style="list-style-type: none"> ■ General lighting is part of the building shell and core provisions ■ Automated lighting controls with programmable systems and room occupancy sensors ■ Independent switch control for each module
<i>Laboratory</i>	<ul style="list-style-type: none"> ■ Fluorescent 24" (w) by 48" (l) recessed parabolic ceiling fixtures with two T-8 lamps and electronic ballasts located every 80 SF (or T-5 equivalent) as part of building shell and core provisions
Telephone and Communication Outlets	
<i>General</i>	<ul style="list-style-type: none"> ■ Conduit and pathways for services from the core to the tenant demised space provided as part of the building shell and core provisions; conduit and boxes within the tenant suite are part of the Tenant Improvement unit costs ■ Conduit and telephone outlet boxes are included in the Tenant Improvement unit costs; telephone systems and data LAN systems are provided by tenant
<i>Laboratory</i>	<ul style="list-style-type: none"> ■ Conduit and boxes for wall mounted receptacles with one telephone line for every laboratory module; wiring and equipment provided by tenant ■ Conduit and boxes for wall mounted receptacles with four LAN connections for each laboratory space module (288 SF); cabling and equipment provided by tenant ■ Conduit and boxes for one ceiling mounted PA speaker per laboratory module; wiring and equipment provided by tenant
Equipment	
<i>Laboratory Equipment</i>	<ul style="list-style-type: none"> ■ Storage for emergency equipment one per 2-lab module
Furnishings	
<i>Casework</i>	
<i>General</i>	<ul style="list-style-type: none"> ■ All casework to be pre-manufactured laboratory metal casework system with cantilever support off of central service chase system ■ Counter to be plastic laminate with integral splash ■ Chase system to have metal channel support with horizontal distribution of wiring
<i>Laboratory Module</i>	<ul style="list-style-type: none"> ■ 16 LF of 36" (h) cabinets ■ 16 LF of 24" (h) cabinets