

GENERAL SPECIFICATION – *LATITUDE* SCIENCE TABLE

PART 1 – GENERAL

1.1 SUMMARY

- A. Related Documents:
 - 1. Drawings and provisions of the contract including General Conditions Supplementary Conditions and Division 1, apply to this section.
- B. Section Includes:
 - 1. Furnish and Latitude Series Table(s) and accessories as shown and listed on drawings and specified herein. Includes complete table structure, countertops, sink, faucets, all included accessories for a complete casework installation.
- C. Related Requirements to be Performed by Others:
 - 1. Division 06 Section: "Rough Carpentry" for blocking within walls to adequately support casework.
 - 2. Division 06 Section: "Finish Carpentry"/Millwork.
 - 3. Division 07 Section: "Preformed Joint Seals" for caulking of casework and/or countertops to abutting walls.
 - 4. Division 09 Section: "Resilient Base and Accessories" for resilient base applied to manufactured casework.
 - 5. Division 22 Section: "Plumbing" for furnishing, installation, and hook-up of sinks, fixtures, outlets, strainers, tailpieces, traps, vacuum breakers, and stops shall be performed by the plumbing contractor to state and local codes. In all cases, sink cutouts shall be by the casework contractor.
 - 6. Division 26 Section: "Electrical" for the electrical contractor to state and local codes shall perform electrical furnishing, installation, and final connections of wiring, conduit, and/or electrical items within casework.

1.2 REFERENCES

- A. ANSI-A161.2-1998: for performance of fabricated high-pressure decorative laminate countertops.
- B. ANSI-A208.1-2016: for grade M-3i mat-formed wood particleboard.
- C. NEMA 3 LD-2005: for performance requirements of high pressure laminates.
- D. AWS: American Woodworking Standards, Edition 2.

1.3 DEFINITIONS

- A. Exposed:
 - 1. In casework, surfaces visible when drawers and opaque doors (if any) are closed; behind clear glass doors; bottoms of cabinets 42" or more above finished floor; and tops of cabinets less than 78" above finished floor.
- B. Semi-Exposed:

1. In casework, surfaces that become visible when opaque doors are open or drawers are extended; bottoms of cabinets more than 30" or tops of cabinets less than 42" above finished floor.

1.4 SUBMITTALS

- A. Shop Drawings:
 1. Comply with Division 1.
 2. Include catalog numbers and specifications of Case Systems, Midland, Michigan.
 3. Submit three sets of laser quality, 11 x 17 shop drawings consisting of:
 - a. Finish, hardware, construction options selection sheet.
 - b. Small scale floor plan showing casework in relation to the building.
 - c. Large scale elevations and plan views.
 - d. Cross-sections; service runs; locations of blocking within walls (blocking is done by others); rough-in requirements and, sink centerlines
 4. Approved shop drawings to be returned to manufacturer at least 60 days before production.
 5. Project Architect and Construction Manager must approve all items prior to fabrication and delivery of casework.
 6. Manufacturer and/or Manufacturer's rep verifies all critical building dimensions prior to fabrication.
- B. Samples:
 1. Submit one set of laminate color brochures or webpage reference from standard laminate manufacturers Wilsonart, Formica, Pionite, and Nevamar.
 2. Submit one edge color sample chain.
 3. Submit one set of interior colors samples.
 4. Submit catalog showing construction details, material specifications and hardware specifications of all items used.
- C. LEED Submittals:
 1. Provide EPP certificates of core for Credit MR 4.1 and **[MR 4.2]**: for casework core having recycled content.
 2. Provide FSC[®] certificate for Credit MR 7: for products having chain-of-custody certificate certifying that the wood used in the casework complies with FSC[®] requirements.
 3. Provide product data for IEQ 4.4: for casework core being manufactured without the use of urea formaldehyde.
- D. Warranty:
 1. Provide sample warranty document stating specified terms as referenced in 1.8.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Must be certified for chain of custody by a third party certification group approved by FSC[®].

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Delivery and Acceptance Requirements:
 - 1. Deliver casework once painting, and similar requirements have been completed that will not damage casework. This includes ensuring spaces are enclosed and weather tight.
 - 2. All Tables shall have packing adequate enough to protect complete product and finishes covered with cardboard and foam for protection during shipping.
- B. Storage and Handling:
 - 1. Casework must be protected from dust, dirt and/or other trades.
 - 2. Countertops are stacked, properly supported and spaced evenly to avoid warping. Large pieces are stacked first on the pallets with shorter pieces stacked on top.

1.7 SITE CONDITIONS

- A. Ambient Conditions:
 - 1. Do not deliver or install the casework until concrete, masonry, and drywall/plaster work is dry; ambient relative humidity is maintained between 25 – 55% prior to delivery and throughout the life of installation; and the temperature is controlled above 55°F.
 - 2. Casework shall not be stored or installed in non-climate controlled conditions.
 - 3. If ambient conditions are not met at the time of requested delivery, the general contractor or owner must provide Case Systems a letter releasing manufacturer from any liability and responsibility from any warranty or damage resulting from not complying with required ambient conditions.

1.8 WARRANTY

- A. Case Systems shall offer a **[One-Year]** or **[Three-Year]** or **[Five-Year]** or **[Limited Lifetime]** warranty to the original owner against defective material and workmanship.
 - 1. The warranty specifically does not cover any product or hardware, which has been incorrectly installed, including poor climate conditions, exposed to excessive loads or abuse.
 - 2. All non-casework items supplied, but not manufactured at Case Systems including, but not limited to sinks, fixtures, apparatus, fume hoods, keyboard trays, lights, power outlets, and power strips shall be covered under the original manufacturers' warranty.

PART 2– PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: **Case Systems**, 2700 James Savage Road, Midland, Michigan 48642 (989) 496-9510 and/or approved dealers.
- B. Substitution Limitations:

1. Substitutions will be considered only when other manufacturers submit substitution requests in accordance with procurement substitution and/or substitution procedures, or provide a comparable product with the following support information detailed below:
 - a. Written documentation stating specification compliance regarding construction, materials, and standard of quality and manufacturing techniques.
 - b. Note all deviations to the drawings and/or specifications in writing.
 - c. Provide the Architect with a full-scale base cabinet not less than ten days prior to bid date. The sample shall represent typical construction and materials for the product the casework manufacturer proposes, meeting the quality standards set forth by this specification. The sample may be impounded by the owner and retained until completion of the casework installation.
 - d. The owner, or its designated representative, reserves the right to reject any proposal that in his opinion fails to meet the criteria established by this specification. Such a decision shall be final.

2.2 MATERIALS

- A. Steel for Base and Top Deck Structure
 1. Sheet steel: High quality cold rolled mild steel meeting the requirements of ASTM A1008 CS Type B in 18ga and 14ga U.S. standard. High quality hot rolled pickled & oiled steel meeting the requirements of ASTM A1011 CS Type B in 11ga and 7ga U.S. Standard.
 2. Tube steel: High quality square tube meeting the requirements of ASTM A500 for 1.5" square with various thicknesses.
- B. Base Enclosure Panels Manufactured with:
 1. Plastic Laminate Panels
 - a. Particleboard Core:
 - i. All particleboard shall be Grade M-3i and shall meet or exceed all requirements as set by ANSI-A208.1-2016.

Modulus of Rupture	2176 psi
Modulus of Elasticity	362600 psi
Internal Bond	73 psi
Linear Expansion	0.40%
Thickness Tolerance	+/- 0.008"
Face Screw Holding	225 pounds Min
 - b. MR (Moisture Resistant)/FSC® Core shall be:
 - i. Interior-Grade moisture resistant particleboard.
 - ii. Meet or exceed M-3i Grade, according ANSI-A208.1-2016.
 - c. Low Emitting Core shall be:
 - i. ULEF/FSC® (No added Urea Formaldehyde) M-2 Particleboard:
 - For casework core having recycled content.
 - ii. For casework core being manufactured without the use of urea formaldehyde.

- iii. For products having chain-of-custody certificates certifying that the wood used in the casework complies with FSC[®] requirements.
 - d. ULEF/FSC[®] (No added Urea Formaldehyde) Plywood:
 - i. Plywood that meets or exceeds the standards set forth by the APA for structural use panels.
 - ii. For casework core being manufactured without the use of urea formaldehyde.
 - iii. For products having chain-of-custody certificates certifying that the wood used in the casework complies with FSC[®] requirements.
 - e. FSC[®] M-3i Particleboard:
 - i. For products having chain-of-custody certificates certifying that the wood used in the casework complies with FSC[®] requirements.
 - f. FSC[®] Plywood:
 - i. For products having chain-of-custody certificates certifying that the wood used in the casework complies with FSC[®] requirements.
 - 2. Painted Steel Panels
 - a. Constructed from 18ga cold rolled steel with an electrostatically applied powder coating finish.
- C. Edge banding:
 - 1. PVC
 - a. Shall be applied utilizing hot melt adhesive and radiused by automatic trimmers. Edging shall be available in a variety of color options.
- D. Adhesives:
 - 1. PVA
 - a. Adhesive shall be mechanically applied.
 - b. ULEF, no VOC
 - 2. EVA
 - a. Adhesive shall be mechanically applied.
- E. Protective coating option:
 - 1. All surfaces, including: table structure, countertops and edge banding be coated with OEM-treated, quat-silane antimicrobial AEM 5772 from AEGIS Environments.

2.3 FABRICATION

- A. General Base and Top Deck Structure Construction:
 - 1. Main base structure consists of formed sheet steel with mig-welded and bolted construction making a rigid frame structure to support the adjustable and fixed portions of the final unit. The base structure is enclosed with removable panels to allow access to plumbing and electrical services.
 - 2. Sink main structure consists of formed sheet steel with mig-welded and bolted construction making a rigid frame structure to support the sink and sink worksurface. Knee space clearances are designed to be wheelchair accessible for the sink. The front and vertical panels of the sink section are removable for access to plumbing and electrical connections.
 - 3. Top deck structure is constructed of 1.5"-11ga square tubing and sheet steel mig-welded to form a rigid structure.

4. Table Lift System
 - a. The adjustable table height range is a nominal 31" to 37" including a 1" counter top thickness
 - b. Linear actuator – Two Units mounted inside of the table base for the adjustable table top.
 - i. Model #LA31 series linear actuator.
 - ii. 24-V DC permanent magnet motor.
 - iii. Thrust up to 6000 N in push and up to 4000 N in pull
 - iv. Synchronization feature on each actuator for accurate control of height range and balance between both actuators.
 - v. Travel length of 150mm (5.91").
 - vi. Built-in brake to hold position.
 - vii. Noise level of 48 dB (A); measuring method DSIEN ISO 3746, actuator not loaded.
 - viii. Duty cycle Max 10% or 2 minutes continuous use followed by 18 minutes not in use.
 - ix. Built in limit switches (non-adjustable).
 - x. Color is black.
 - c. Desk Panel (up/down switch)
 - i. Model number #DP1E.
 - ii. Two button plastic housed switch with imprinted arrows indicating the up and down directions.
 - iii. Color is black.
 - d. Power Transformer/ control box
 - i. Model #CB9.
 - ii. Input voltage of 120v and output voltage of 24v.
 - iii. Maximum amperage draw is 2.7amps.
 - iv. Color is black.
5. Load rating:
 - a. Overall table load rating with an epoxy worksurface and sink is 300 lbs maximum of evenly distributed load.
6. Countertops:
 - a. Epoxy Resin:
 - i. Top shall be 1" thick with 1/32" chamfer on finished Epoxy edges and shall be provided with 1/8" radius edge and all corners.
 - Optional molded dished (marine edge) worksurface.
 - b. Phenolic Resin:
 - i. Shall be: **[3/4"]** or **[1"]** thickness with 1/8" radius edge and all corners.
 - ii. Shall be made of thermosetting resins, homogeneously reinforced with wood based fibers, manufactured under high heat and high pressure.
 - iii. Non-porous, water resistant with anti-microbial properties without the use of coatings or additives.

2.4 ACCESSORIES

- A. Sink:
 - 1. Epoxy sink for ADA requirements, Durcon model A55 drop-in style, corner outlet, 25" w x 15" l x 4.8" d. Standard Durcon polypropylene sink outlet and sink strainer cap are included. Color is black.
- B. Water and Gas Fixtures:
 - 1. Laboratory grade service fixture by Watersaver, Vandal-resistant combination fixture, hot/cold and gas. Watersaver VR5800WSA for standard model & VR5800-110WSA for model with in-line vacuum breaker on water inlet.
 - a. Laboratory style ball valves for gas fixtures
- C. Electrical fixtures:
 - 1. Outlet fixtures and covers in Apron Assembly:
 - a. Electrical duplex outlets are a Leviton #G5262 series 15amp 125v rated, GFCI industrial grade receptacle.
 - b. USB outlets are a Leviton #USB4P series 4.2A-125v rated total output with (4) ports.
 - c. Covers are Leviton standard configurations to fit the application and quad box size.
 - 2. Power Outlet Strip mounting under Top Deck Structure
 - a. Six outlet power strip, 15A rated, lighted on/off switch.
 - b. Power cord is 15' length with NEMA 5-15 plug.
- D. Apparatus Rods:
 - 1. Rods and fittings are manufactured from machined aluminum.
 - 2. Rod socket is a taper fit design.
 - 3. Rod diameter is 3/4" and available in various lengths.
- E. Wire grommets:
 - 1. 60mm diameter surface mount with snap on cover. Available in several colors.
- F. Plumbing P-trap ADA cover. Trubro soft mold vinyl P-trap cover with internal fasteners.

2.5 FINISHES

- A. Base Panels:
 - 1. Plastic Laminate:
 - a. High Pressure Laminate is available in non-premium, non-specialty and manufacturers' standard suede finishes from our select laminate manufacturers, including:
 - i. **[Standard: Wilsonart® in a "60" or "38" matte finish]** and **[Standard: Nevamar® in a "T" textured finish]** and **[Standard: Formica in a "58" finish]** and **[Standard: Pionite in an "SD" finish]**.
 - ii. Color: Specialty and other manufacturer finishes are available with additional cost and longer lead times.

- b. Metal base panels available in an epoxy powder coated finish in grey, light neutral, black or white.
- B. Main Frame Metal Structure available in an epoxy powder coated finish in grey, light neutral, black or white.
- C. Plastic Laminate Countertop Colors:
 - a. **[Standard: Wilsonart® in a “60” matte finish]** or **[Standard: Nevamar® in a “T” textured finish]** or **[Standard: Formica in a ”58” finish]** or **[Standard: Pionite in an “SD” finish]**.
 - b. Color: Specialty and other manufacturer finishes are available with additional cost and longer lead times.
- D. Epoxy Resin Countertops shall be: **[Standard: Black]**.
- E. Phenolic Resin Countertop shall be: **[Standard: Black]**.
- F. Accessories:
 - 1. Fixtures
 - a. All laboratory service fixtures shall be polished chrome plated.
 - 2. Outlet fixtures and covers:
 - a. Electrical duplex outlets are a Leviton #G5262 series and available in standard color offerings of grey, light neutral, black or white..
 - b. USB outlets are a Leviton #USB4P series and available in standard color offerings of grey, light neutral, black or white..
 - c. Covers are Leviton standard product color offerings of grey, light neutral, black or white...
 - 3. Power Outlet Strip
 - a. Housing is putty white aluminum and cord is putty white.
 - 4. Round Grommet shall be in one of our standard colors: **[Black]** or **[Almond]** or **[Grey]** or **[White]**.
 - 5. P-trap cover is white in color.

PART 3 – EXECUTION

3.1 INSTALLERS

- A. Installation shall be: by casework manufacturer’s authorized representative.

3.2 INSTALLATION

- A. Table system shall not be: installed until concrete, masonry, and drywall/plaster work is dry.
 - 1. If ambient conditions are not met at the time of requested delivery, the general contractor or owner must provide Case Systems a letter that releases manufacturer from any liability and responsibility from any warranty or damage resulting from not complying with required ambient conditions.
- B. Table system shall be: installed plumb and true and is to be securely anchored in place.
- C. The casework contractor shall verify all critical building dimensions prior to fabrication of casework.



- D. Provide all labor for unloading, distribution, and installation of table systems and related items as specified.
- E. All table systems shall be: securely anchored to building floor utilizing all provided anchor points on the table system feet assemblies.
- F. Power requirements for the table lift system are:
 - 1. Table lift system has a common 15amp 125v NEMA 1-15 style cord end and the maximum amperage draw is 2.7amps.
 - 2. Optional six outlet power strip consists of a NEMA 5-15 grounded cord end plug with a 15' cord.
 - 3. Optional sink apron power outlets consist of (4) total GFCI duplex receptacle outlets, 15amp 125v rated outlets that are to be hard wired from the outlets to the building supply connection in the base of the table by a qualified licensed electrician at the building site.
 - 4. Optional sink apron power outlets consist of (2) total GFCI duplex 15amp outlets and (2) total USB charging outlet devices that contain (4) USB ports in each. All are to be hard wired from the outlets to the building supply connection in the base of the table by a qualified licensed electrician at the building site.
- G. The casework installer shall remove all debris, sawdust, scraps, and leave table system spaces clean.
- H. All table systems must be installed by casework installer plumb and level, adjust table deck assembly for proper alignment with sink assembly, and operate height adjustment system to ensure it functions properly.

-END OF SECTION-