ONEPOINTE SOLUTIONS

SECTION 12 56 53
PHENOLIC RESIN CASEWORK

1) GENERAL
   a) SECTION INCLUDES
      i) Laboratory Casework and Cabinetry

   b) RELATED SECTIONS
      i) Divisions 5 and 6: Behind the Wall Blocking and Studs
      ii) Division 9: Base Molding
      iii) Division 11: Appliances
      iv) Division 15: Plumbing
      v) Division 16: Electrical Service Fixtures and Connections

   c) DEFINITIONS
      i) Identification of casework components and related products by surface visibility.
         (1) Exposed Exterior Surfaces – All surfaces visible when doors and drawers are closed, including knee spaces. The underside of cabinet bottoms over 42" above the finished floor. Cabinet tops under 80" above the finished floor, or if 80" and over and visible from an upper building level or floor. Front edges of stretchers, ends, divisions, tops and bottoms. Sloping tops of cabinets that are visible.
         (2) Exposed Interior Surfaces – All interior surfaces exposed to view in open casework or behind transparent doors.
         (3) Semi-Exposed Surfaces – Interior surfaces only exposed to view when doors or drawers are opened.
         (4) Concealed Surfaces – Exterior or interior surfaces that are covered, or not normally exposed to view.

   d) QUALITY ASSURANCE
      i) Manufacturer: Minimum of 5 years experience in providing manufactured casework systems for similar types of projects, produce evidence of financial stability, bonding capacity, and adequate facilities and personnel required to perform on this project.
      ii) Manufacturer: Provide products meeting or exceeding SEFA 8 PH-2016 Recommended Practices for Laboratory Grade Phenolic Casework, as established in the Scientific Equipment & Furniture Association (SEFA) 2016 Desk Reference, 5th Edition.

   OPTIONAL LANGUAGE: Architectural Woodwork Quality Standards (Delete this subsection if not required.)

      iii) Quality Standard: Unless otherwise indicated, comply with AWI's Architectural Woodwork Quality Standards Current Edition for grades of interior architectural woodwork, construction, finishes and other requirements.
         (1) Provide current license from AWI Quality Certification Program that manufacturer is duly certified for premium grade quality standards in sections 10.3 (Phenolic Cabinets) and P10.0620 (Installation)
         (2) Provide labels indicating that manufactured casework meets AWI standards.

   e) SUBMITTALS
      i) Comply with Division 1, unless otherwise indicated.
      ii) Product Data: Manufacturer's catalog with specifications and construction details.
      iii) Shop Drawings: Indicate dimensions, description of materials and finishes, general construction, specific modifications, component connections, anchorage methods, hardware, and installation procedures, plus the following specific requirements.
         (1) Include section drawings of typical and special casework, work surfaces and accessories.

(2) Indicate locations of plumbing and electrical service field connection by others.

f) PRODUCT HANDLING
   i) Deliver completed phenolic resin casework, countertops, and related products only after wet operations in building are completed, store in ventilated place, protected from the weather, with relative humidity range of 30 percent to 55 percent.
   ii) Protect finished surfaces from soiling and damage during handling and installation with a protective covering.

g) JOB CONDITIONS
   i) Environmental Requirements: Do not install casework until permanent HVAC systems are operating and temperature and humidity have been stabilized for at least 1 week.
      (1) Manufacturer/Supplier shall advise Contractor of temperature and humidity requirements for architectural casework installation areas.
      (2) After installation, control temperature and humidity to maintain relative humidity between 30 percent and 55 percent.
   ii) Conditions: Do not install casework until interior concrete work, masonry, plastering and other wet operations are complete.

h) WARRANTY
   i) All materials and workmanship covered by this section will carry a five (5) year warranty from date of acceptance.

2) PRODUCTS
   a) ACCEPTABLE MANUFACTURERS
      i) Manufacturer:
         (1) OnePointe Solutions
            (a) Drawings and specifications are based on OnePointe Solutions phenolic resin casework.
            (b) Other manufacturers shall comply with the minimum levels of material and detailing indicated on the drawings or as specified.

   b) MATERIALS
      i) Surfaces
         (1) Chemical Resistiant Phenolic is a self supporting flat panel based on thermosetting resins, homogeneously reinforced with cellulose fibers and manufactured under high pressure. The panels have a pigmented resin core with a decorative surface that is electron-beam cured.
         (2) Surfaces shall be constructed of solid phenolic composite chemical resistant panels with manufacturer's standard core color options.
      ii) Color Selection
         (1) Maximum 1 color per unit face and 5 colors per project.
      iii) Finish
         (1) Matte
      iv) Physical Properties
         (1) Resistance to Stress Abrasion (EN 438-2:10) > 150 U (rotations)
         (2) Resistance to Impact (EN 438-2:21) > 1/3"
         (3) Resistance to Scratching (EN 438-2:25) 4-6 N (6N = 1.35lbf)
         (4) Resistance to Dry Heat (EN 438-2:16) 4
         (5) Resistance to Boiling Water (EN 438-2:12) 0.5% (CGS/CGF) 1.5 (BCS)
         (6) Dimensional Stability in Elevated Temperature (EN 438-2:17) < 0.10% L : < 0.21% W (CGS)

(7) Resistance to Staining (EN 438-2:26 (group 1-2)): 5, no visible changes, blisters, or cracks
(8) Resistance to Color Change (EN 438-2:27) 4 or 5
(9) Porosity - Non porous surface and edges
(10) Modulus of elasticity (EN ISO 178) > 1,305,340 psi
(11) Flexural Strength (EN ISO 178) > 11,603 psi
(12) Tensile Strength (EN ISO 527-2) > 8,702 psi
(13) Density (ISO 1183) > 84lbs/ft3

v) Chemical Resistance

Evaluation of chemical resistance based on SEFA 3-2010 Laboratory Work Surfaces standard list of 49 chemicals / concentrations, their required methods of testing (24-hour surface test) and exceed the acceptable results as a means of establishing an acceptable level of performance for all exposed and semiexposed surfaces.

The chemical resistance performance should be as follows:

Rating Scale:
Level 0 - No detectable change.
Level 1 - Slight change in color or gloss.
Level 2 - Slight surface etching or severe staining.
Level 3 - Pitting, cratering, swelling, or erosion of coating. Obvious and significant deterioration.

CHEMICAL/REAGENT	TEST METHOD	RATING
ACETATE, AMYL	A	0
ACETATE, ETHYL	A	0
ACETIC ACID - 98%	B	0
ACETONE	A	0
ALCOHOL, ETHYL	A	0
ALCOHOL, METHYL	A	0
ALOCHOL, BUTYL	A	0
AMMONIUM HYDROXIDE, 28%	B	0
BENZENE	A	0
CARBON TETRACHLORIDE	A	0
CHLOROFORM	A	1
CHROMIC ACID - 60%	B	0
CRESOL	A	1
DICHLORACETIC ACID	A	2
DICHROMATE ACID 5%	B	1
DIMETHYLFORMAMIDE	A	0
DIOXANE	A	0
ETHYL ETHER	A	0
FORMALDEHYDE, 37%	A	0
FORMIC ACID - 90%	B	1

FURFURAL	A	1
GASOLINE	A	0
HYDROCHLORIC ACID 37%	B	0
HYDROFLUORIC ACID, 48%	B	1
HYDROGEN PEROXIDE, 30%	B	2
IODINE, TINCTURE OF	B	1
METHYL ETHYL KETONE	A	0
METHYLENE CHLORIDE	A	0
MONOCHLOROBENZENE	A	0
NAPTHALENE	A	0
NITRIC ACID 20%	B	0
NITRIC ACID 30%	B	0
NITRIC ACID 70%	B	0
PHENOL, 90% (WT)	A	1
PHOSPHORIC ACID 85%	B	0
SILVER NITRATE, SATURATED	B	0
SODIUM HYDROXIDE FLAKE	B	0
SODIUM HYDROXIDE, 10% (WT)	B	0
SODIUM HYDROXIDE, 20% (WT)	B	0
SODIUM HYDROXIDE, 40% (WT)	B	0
SODIUM SULFIDE SATURATED	B	0
SULFURIC ACID, 33%	B	0
SULFURIC ACID, 77%	B	0
SULFURIC ACID, 77% & NITRIC ACID, 70% EQUAL PARTS	B	2
SULFURIC ACID, 96%	B	1
TOLUENE	A	0
TRICHOLOROETHYLENE	A	0
XYLENE	A	0
ZINC CHLORIDE, SATURATED	B	0

vi) Glass:
(1) Wall unit full sliding glass doors: 1/4” thick laminated safety glass.
(2) Glass insert doors, hinged or sliding wall cabinets: 1/4” thick tempered glass.
(3) Glass insert doors, hinged or sliding tall or base cabinets. 1/4” thick tempered glass.
(4) Sliding doors mounted in aluminum track.
(5) Trim glass inserts: Transparent, vinyl panel retainer strip, field removable to replace broken panes.

c) SPECIALTY ITEMS
i) Support Members:

(1) Countertop support brackets: Powder coated, 12ga steel with integral cleat mount opening and wire management opening.
(2) Undercounter support frames: Powder coated.
(3) Legs: Powder coated.

d) CABINET HARDWARE
i) Hinges:
(1) Concealed hinge with soft close functionality, and three-dimensional door adjustment. ANSI-BHMA standard A156.9, Grade 2.
(a) Doors 31" to 60" in height have 3 hinges per door.
(b) Doors 61" to 84" in height have 4 hinges per door.
(c) Doors 85" and higher in height have 5 hinges per door.
ii) Pulls:
(1) Door and drawer front pulls are metal wire with brushed chrome finish, 96 mm spacing on fasteners. Pull design is compatible with the Americans with Disability Act (ADA).
iii) Drawer Slides:
(1) Regular, knee space, and pencil: Full extension 75-pound load rated zinc coated steel, under mounted with soft close functionality and four-dimensional adjustment. ANSI/BHMA standard A156.9, Grade 1.
(2) File: Full extension 150-pound load rated zinc coated steel, under mounted soft close functionality and four-dimensional adjustment. ANSI/BHMA standard A156.9, Grade 1.
iv) Adjustable Shelf Supports:
(1) Nickel plated metal shelf support, friction fit into cabinet end panels and vertical dividers adjustable to 32mm centers. Each shelf support allows field fixing of shelf to prevent accidental rotation of support if desired. ANSI/BHMA standard A156.9, Grade 1.
v) Locks:
(1) Five-pin tumbler, deadbolt style lock with strike for drawers and non-sliding doors. Five-pin tumbler, plunger style lock with strike for sliding doors. ANSI/BHMA standard A156.11, Grade 1
(2) Elbow catch to secure inactive door on all locked cabinets. ANSI/BHMA standard A156.9, Meets Standards.
vi) Sliding Door Track: Anodized aluminum double channel.
vii) Coat Rods: 1 3/16" diameter, 16ga chrome plated steel installed in captive mounting hardware.
viii) File Suspension System: Extruded molding integral with top of drawer box sides to accept standard hanging file folders.
ix) Mirrors: 1/8" thick mirrored acrylic, break and impact resistant.

e) FABRICATION
i) Fabricate casework, countertops and related products to dimensions, profiles, and details shown.
ii) All casework panel components must be precisely cut to size and squareness to ensure strict dimensional quality and structural integrity in the final fabricated product.
iii) Cabinet Body Construction:
(1) Tops and bottoms: ¾" thick, glued and doweled to cabinet sides and internal cabinet components such as fixed horizontals, rails and verticals.
(2) Cabinet backs: ¼" thick fully captured by the cabinet top, bottom and side panels. Finish to match cabinet interior. Mounting stretchers that are ¾" thick are placed behind the back panel for attachment to the wall and doweled to the cabinet sides. An additional mounting stretcher will be included on all cabinets taller than 60" at approximately mid height of the cabinet.
(a) Cabinets with a finished back: ½" thick matching the selected exterior finish.

(3) Fixed base and tall units have an individual factory-applied base, ½" thick. Base is 4" high unless otherwise indicated on the drawings.
(4) Base units, except sink base units: Top stretchers, ¾" thick by 4" wide, located at the front and rear of the cabinet, attached to the sides. Back to be removable access panel.
(5) Sink base units are provided with open top and a stretcher at the front, attached to the sides. Back to be removable access panel.
(6) Side panels and vertical dividers shall receive adjustable shelf hardware at 32 mm line boring centers.
(7) Exposed and semi exposed edges:
(a) Machine polished and free from tooling imperfections.
(8) Cabinet Shelves: ¾" thick.
(9) Drawer Stretchers: ½" thick.
(10) Interior finish, units with open Interiors:
(a) Top, bottom, back, sides, horizontal and vertical members, and adjustable shelving faces matches exterior color selected.
(11) Interior finish, units with closed Interiors:
(a) Top, bottom, back, sides, horizontal and vertical members, and adjustable shelving faces matching exterior color selected.
(12) Exposed ends:
(a) Matching exterior color selected.
(13) Wall unit bottom:
(a) Matching exterior color selected.

iv) Drawers:
(1) Sides: Powder Coated Steel
(2) Back: 5/8" thick, mechanically fastened into sides.
(a) Edge: Machine polished and free from tooling imperfections.
(3) Bottom: 5/8" thick, assembled into a machined groove in the drawer box sides.

v) Door/Drawer Fronts:
(1) ½" thick
(2) Exposed Exterior Surface:
(a) Matching exterior color selected.
(3) Semi-Exposed Surface:
(a) Matching exterior color selected.
(4) Edges:
(a) Machine polished and free from tooling imperfections
(5) Provide double doors when the opening is nominally in excess of 24" wide.

3) EXECUTION
a) INSPECTION
i) The casework contractor must examine the job site and the conditions under which the work under this section is to be performed and notify the building owner in writing of unsatisfactory conditions. Do not proceed with work under this Section until satisfactory conditions have been corrected in a manner acceptable to the installer.

b) PREPARATION
i) Condition casework to average prevailing humidity conditions in installation areas prior to installing.

c) INSTALLATION
i) Erect casework, plumb, level, true and straight with no distortions. Shim as required. Where phenolic resin casework abuts other finished work, scribe and cut to accurate fit.

ii) Adjust casework and hardware so that doors and drawers operate smoothly without warp or bind.
iii) Repair minor damage per phenolic resin manufacturer's recommendations.

d) CLEANING
i) Remove and dispose of all packing materials and related construction debris.
ii) Clean cabinets inside and out. Wipe off fingerprints, pencil marks, and surface soil etc., in preparation for final cleaning by the building owner.

END OF SECTION