

# NEW JERSEY

SPECIFICATIONS BY ADVANCELAB



GLOBAL LABORATORY SOLUTIONS



DESIGNED BY ADVANCELAB

CASEWORK  
CONSTRUCTION

1.1 Quality Assurance ..... 3

1.2 Submittals ..... 3

1.3 Manufacturer ..... 3

1.4 Cabinet Material ..... 3

1.5 Drawer and Door Style ..... 4

1.6 Materials ..... 4

1.7 Construction ..... 5

1.8 Performance Requirements ..... 6

1.9 Work Surfaces ..... 7-8

1.10 Site Examination ..... 9

1.11 Installation ..... 9

CABINETS

Cabinet ..... 10

Wall Hung Cabinet ..... 11

Work Area ..... 12

Cut Sheets ..... 13-14

Hardware Options ..... 15-16

CERTIFICATIONS

ISO 9001:2015 ..... 18

OHSAS 18001:2007 ..... 19

ISO 45001:2018 ..... 20

TUV Testing ..... 21

EpoxyPlus® Testing ..... 22

Phenolic Testing ..... 23-24

Nippon Steel ..... 25

Warranty ..... 26

REFERENCES

**TUV Testing:**  
SEFA 8-M modified load test for laboratory furniture

**ISO 45001:2018:**  
To access the occupational health and safety management

**ISO 9001:2015**  
Demonstrate the ability to consistently provide products and services that meet customer and regulatory requirements.

## CASEWORK CONSTRUCTION

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### 1.1 QUALITY ASSURANCE

- A. The steel laboratory furniture contractor shall provide worktops and fume hoods all manufactured or shipped from the same geographical location to assure proper staging, shipment and single source responsibility.
- B. General performance: All furniture shall meet the performance requirements required for laboratory good function.

### 1.2 SUBMITALS

- A. Manufacturer's data: Submit manufacturer's certificates (ISO 9001 & ISO 45001) and installation instructions for casework.
- B. Samples: Samples shall be delivered, at no cost to the architect or the owner, to a destination set forth by the architect or the owner. This must be done seven (7) days before quotation deadline as a condition of approval of each bidder.
  - 1. One (1) drawer unit and (1) double door cupboard base unit showing complete construction details, including (1) shelf.
  - 2. One sample of all top materials shown or called for, of sufficient size to perform finish requirement tests, at least 100mm by 100mm size.
  - 3. Sample of all mechanical service fittings, locks, door pull, hinges, and interior hardware.The architect or owner will retain the above samples of the successful manufacture to insure that material delivered to jobsite conforms in every respect to the samples submitted.
- C. Shop drawings: Submit shop drawings for furniture assemblies showing plans, elevations, ends, cross-sections, service run spaces, location and type of service fittings.
  - 1. Coordinate shop drawings with other trades involved.
  - 2. Provide roughing-in drawings for mechanical and electrical services when required.

### 1.3 MANUFACTURER

- A. All laboratory equipment covered by the specification shall be the product of one manufacturer and be fabricated at one geographic location to assure shipping continuity and single-source responsibility.
  - 1. List of shop facilities at manufacturing site.
  - 2. List of engineering and manufacturing personnel, fully employed by the manufacturer.
  - 3. List of minimum of ten (10) installations over the last five (5) years of comparable scope.
  - 4. Proof of project management and installation capabilities.
  - 5. Factory acceptance test of factory visits as required by architect or owner.

### 1.4 CABINET MATERIAL

- A. Steel: Cabinet bodies, shelves, drawer heads and door assemblies shall be fabricated from electrogalvanized steel.

### 1.5 DRAWER AND DOOR STYLE

#### A. Inset - Square Edge

Drawer and doors, shall have a full width and when closed, shall be recessed to create an overall flush face. The outer drawer and door head shall be bent on all four sides to eliminate sharp raw edges of steel. The top front corners of the door shall be welded and ground smooth.

### 1.6 MATERIALS

A. General requirements: It is the intent of this specification to provide a high quality steel cabinet and specifically designed for the laboratory environment.

#### B. Steel:

Zinc coated electrogalvanized steel (0.7, 0.9, 1.0, 1.2, 1.5)mm thick and shall be treated at the factory to be free of scale, ragged edges, deep scratches or other injurious effects.

#### C. Hardware and Trim:

##### 1. Drawer and pulls:

Drawer and door pulls shall offer a comfortable hand grip, and be securely fastened to doors and drawers.

- a. They shall be manufactured from 8mm diameter rod with a brushed satin finish.
- b. 115mm x 42mm stainless steel flushed handles with brushed satin finish.
- c. Specified as per individual project requirements.

##### 2. Hinges:

- a. Fully concealed 165° opening angle hinge. Manufactured from steel with nickel finish with depth and height adjustment. Doors under 1220mm in height shall be hung on a pair of hinges and doors over 1220mm in height shall be hung on three hinges.
- b. Knuckle hinges allows maximum clearance of passage of equipment through doorway. Manufactured from steel with nickel finish. 5 knuckle hinges as standard where specified.

##### 3. Drawer slide:

Zinc plated full extension ball bearing slide with roll guard. Load capacity 40kg.

##### 4. Shelf adjustment clips:

Shelf adjustment clips shall be die formed, nickel-plated steel.

### 1.7 CONSTRUCTION

#### A. Steel Cabinet Construction:

1. The steel furniture shall be of modern design and shall be constructed in accordance with the best practices of the Scientific Laboratory Equipment Industry. First class quality casework shall be insured by the use of proper machinery, tools, dies, fixtures and skilled workmanship to meet the intended quality and quantity for the project.
2. Each cabinet shall be complete so that units can be relocated at any subsequent time without requiring ends or other such parts.
3. All cabinets shall have a cleanable smooth interior.
4. Thickness of steel used in construction of cases shall be of various thickness between 0.7mm to 1.5mm.

#### B. Base Cabinets:

1. End uprights shall be formed into a C formation and shall be added to the inside front of the cabinet for hinge reinforcement and the support of drawer channels, intermediate rails, hinge screws, and shelf adjustment pilaster.
2. Steel door assembly (two-piece) for solid panel swinging doors shall consist of an inner and outer pan. Outer pan shall be formed at all four sides. The corners on the pull side of the outer door pan shall be welded and ground smooth to prevent exposure to sharp edges of steel at these critical points. Inner door pan shall be flanged at all four sides with hinge reinforcements welded in place. The door assembly shall contain sound deadening material. Door assemblies shall be painted prior to assembly, and shall be punched for attaching pulls.
3. Doors shall be readily removable and hinges easily replaceable. Hinges shall be applied to the cabinet door with screws. Welding of hinges to either cabinet or door will not be acceptable.
4. Drawer bodies shall be made in one-piece construction including the bottom, back and front. They shall be bent at the interior bottom on all four sides for easy cleaning.
5. Knee space panels, where shown or specified shall be sliding type with same finish as casework, and easily removable for access to mechanical service areas without tools.

#### C. Steel Full Height Cabinet Construction:

1. Full height storage cabinets shall have a completely finished interior same as exterior.
2. End uprights shall be formed at front, bottom and back to provide maximum strength and rigidity. A full height reinforcement shall be fitted to the channel to reinforce the cabinet. The backside of the reinforcement added with pilaster for shelf adjustment.
3. Cabinet tops shall be formed into a flange at all four sides for welding cabinet top to cabinet. Front fascia shall be channel shall be strengthened with weld reinforcements.
4. Cabinet bottoms shall be formed down on sides and back to create a square edge transition welded to cabinet end panels. All cabinets shall have a cleanable smooth interior.

#### D. Table Structures:

1. Table structure consists of welded leg assemblies connected by mechanical fasteners.
2. The structure shall be formed using 1.5mm thick hollow sections and can be either mobile with castor wheels or fixed with adjustable legs.

## CASEWORK CONSTRUCTION

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### 1.8 PERFORMANCE REQUIREMENTS

#### A. Steel Casework Construction Performance:

1. Base cabinets shall be constructed to support at least a uniformly distributed load of 681 kilograms of weight of cabinet top area, including working surface without objectionable distortion of interference with door and drawer operation.
2. Each adjustable and fixed shelf 4 feet or shorter in length shall support a maximum uniformly distributed load of 45 kilograms with nominal temporary deflection, but without permanent set.
3. Swinging doors on casework shall support 45 kilograms suspended at a point 300mm from hinge centre, with door swung through an arc of 160°. Weight load test shall allow for temporary deflection, without permanent distortion. Door shall operate freely after test and assume a flat plane in a closed position.

#### B. Steel Paint System Finish:

##### 1. Steel Paint System Finish:

After electrogalvanized steel and textured steel components have been completely welded together, they shall be given a pre-paint treatment to provide excellent adhesion of the finish system to the steel and to aid the prevention of corrosion.

2. All cabinet surfaces to be provided in a powder-coated finish.

CASEWORK CONSTRUCTION

1.9 WORK SURFACES

- A. Materials:
  - 1. EpoxyPlus® Resin Tops

PHYSICAL PROPERTIES

Number	Property	Test Method (ASTM)	S.I
1	Compressive Strength	D695 -10	136.5 MPa
2	Flexural Strength	D790 -10	55.1 MPa
3	Rockwell Hardness (M Scale)	D785 -08	90
4	Water Absorption	D570 -98	0.022%
5	Heat Distortion Temperature	D648 -07	115°C
6	Density	D792 -00	1.95 g/cm3
7	Flexural Modulus	D790 -10	16205 MPa
8	Fire Resistance	D635 -06	No Flaming

Please see pg 22 for the Chemical Properties



## CASEWORK CONSTRUCTION

### 2. Phenolic Resin lab grade - Resistlab®

PHYSICAL PROPERTIES	Test Method	Property / Attribute	Unit (min. or max.)	Values
Resistance to Surface Wear	10	Wear Resistance	Revolutions (min.) Initial point Wear value	150 350
Resistance to Impact by Large Diameter Ball	21	Drop Height(a)	mm (min.) (t=nominal thickness) $2.0 \leq t < 6.0$ $6.0 \leq t$	1400 1800
Resistance to Scratching	25	Force	Rating (min.) Textured finishes	3
Resistance to Dry Heat (180° C)	16	Appearance	Rating (min.) Textured finishes	4
Resistance to Wet Heat (100° C)	EN12721	Appearance	Rating (min.) Textured finishes	4
Resistance to Immersion in Boiling Water	12	Mass Increase	5 (max.) $2.0 \text{ mm} \leq t < 5.0 \text{ mm}$ $t \geq 5.0 \text{ mm}$	5.0 2.0
		Thickness Increase	% (max.) (t=nominal thickness) $2.0 \text{ mm} \leq t < 5.0 \text{ mm}$ $t \geq 5.0 \text{ mm}$	6.0 2.0
		Appearance	Rating (min.) Textured finishes	4
Dimensional Stability at Elevated Temperature	17	Cumulative Dimensional Change	% (max.) (t=nominal thickness) $2.0 \text{ mm} \leq t < 5.0 \text{ mm L(b)}$ $2.0 \text{ mm} \leq t < 5.0 \text{ mm T(c)}$ $t \geq 5.0 \text{ mm L}$ $t \geq 5.0 \text{ mm T}$	0.40 0.80 0.30 0.60
Resistance Staining	26	Appearance	Rating (min.) Groups 1&2 Group 3	5 4
Lightfastness (Xenon Arc)	27	Contrast	Grey scale rating	4 to 5
Resistance to Water Vapour	14	Appearance	Rating (min.) Textured finishes	4
Resistance to Cigarette Burns	30	Appearance	Rating (min.)	3
Resistance to Crazeing	24	Appearance	Grade (min.)	4
Flexural Modulus	EN ISO 178(d)	Stress	Mpa (min.)	9000
Flexural Strength	EN ISO 178(d)	Stress	Mpa (min.)	80
Tensile Strength	EN ISO 527(e)	Stress	Mpa (min.)	60
Density	EN ISO 1183	Density	kg/m³ (min.)	1350

Please see pg 23-24 for the Chemical Properties

- a) When tested at the specified drop height, the diameter of indentation shall not exceed 10 mm.
- b) L = in the longitudinal (or machine) direction of the fibrous sheet material (normally the direction of the longest dimension of the laminate).
- c) T = in the cross-longitudinal (cross-machine) direction of the fibrous sheet material (at right angles to direction L).
- d) Machine crosshead speed : 2 mm/min.
- e) Specimen type 1A : Machine crosshead speed 5 mm/min.

### 1.10 SITE EXAMINATION

- A. The owner and/or his representative shall assure all building conditions conducive to the installation of a finished product; all critical dimensions and conditions previously checked have been adhered to by the other contractors (general, mechanical, and electrical, etc.) to assure a quality installation.

### 1.11 INSTALLATION

A. Preparation:

Prior to beginning installation of casework, check and verify that no irregularities exist that would affect quality of work specified.

B. Coordination:

Coordinate the work of the Section with schedule and other requirements of other work being prepared on the area at the same time with regard to mechanical and electrical connections to and in the fume hoods and the general construction work.

C. Performance:

1. Casework:

- a. Set casework components plumb, square and straight with no distortion and securely anchor to building structure. Shim as required using concealed shims.
- b. Bolt continuous structure with joints flush, tight and uniform, and with alignment of adjacent units within tolerance.
- c. Secure wall cabinets to solid supporting material, not to plaster, lath or gypsum board.

2. Work Surfaces:

- a. Where required due to field conditions, cut to fit.
- b. Only factory prepared field joints, located per approved shop drawings, shall be permitted. Secure the joints in the field, where practical, in the same manner as in the factory.
- c. Secure work surfaces to casework and equipment components with materials and procedures recommended by the manufacturer.

D. Adjust and Clean:

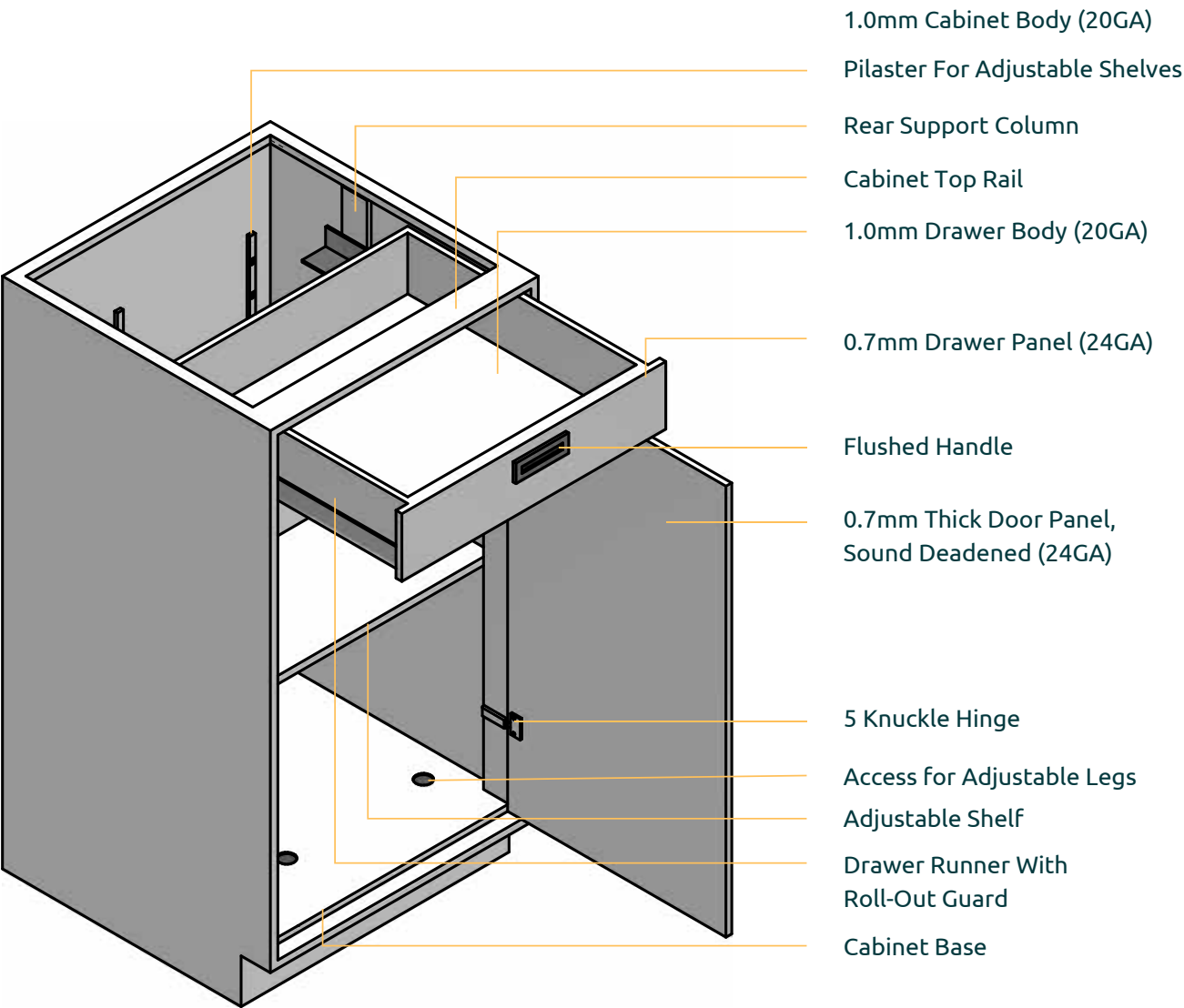
1. Repair or remove and replace defective work, as directed by owner and/or his representative upon completion of installation.
2. Adjust doors, drawers and other moving or operating parts to function smoothly.
3. Clean shop finished casework, touch up as required.
4. Clean work surfaces and leave them free of all grease and streaks.
5. Casework to be left broom clean and orderly.

E. Protection:

1. Provide reasonable protective measures to prevent casework and equipment from being exposed to other construction activity.
2. Advise owner and/or his representative of procedures and precautions for protection of material, installed laboratory casework and fixtures from damage by work of other trades.

CABINET CONSTRUCTION DETAILS

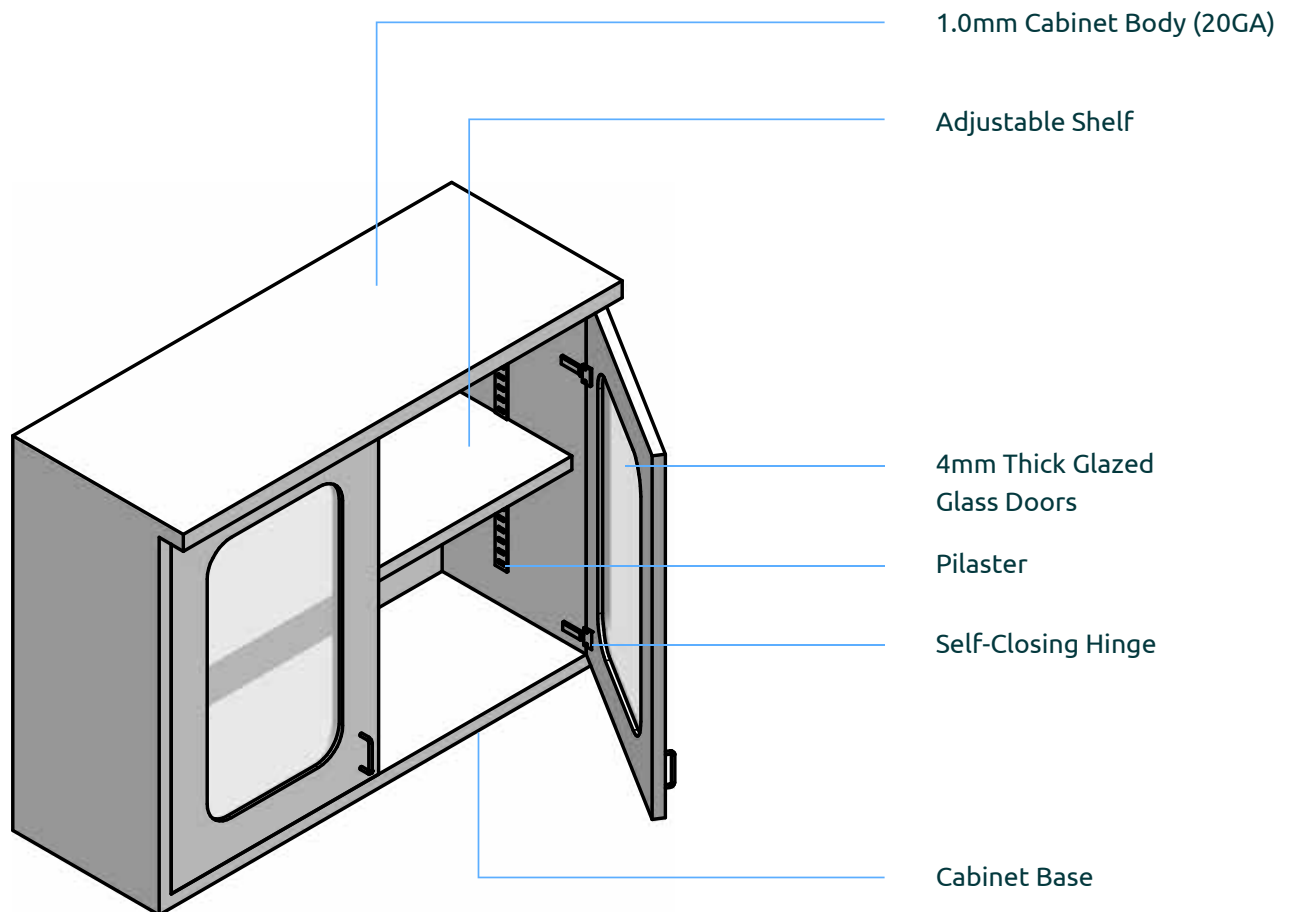
CABINET



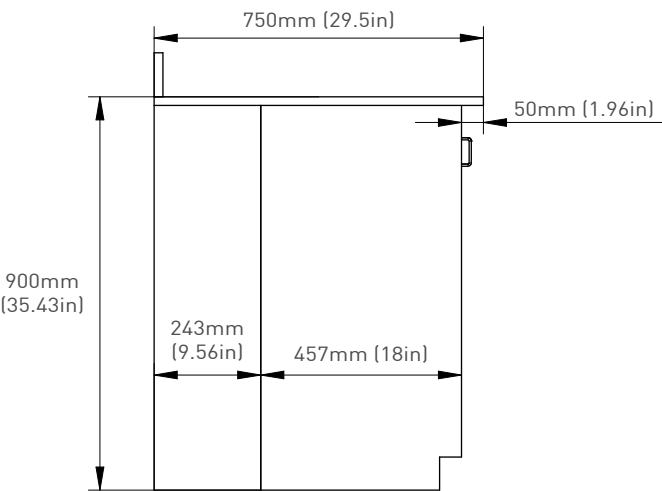
## CABINET CONSTRUCTION DETAILS

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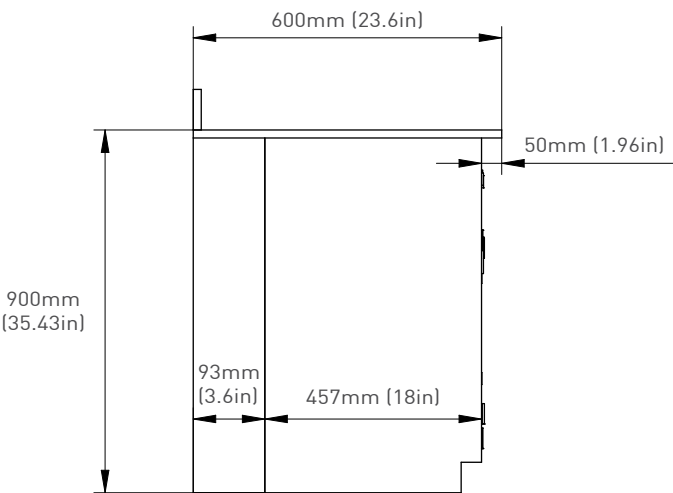
### WALL HUNG CABINET



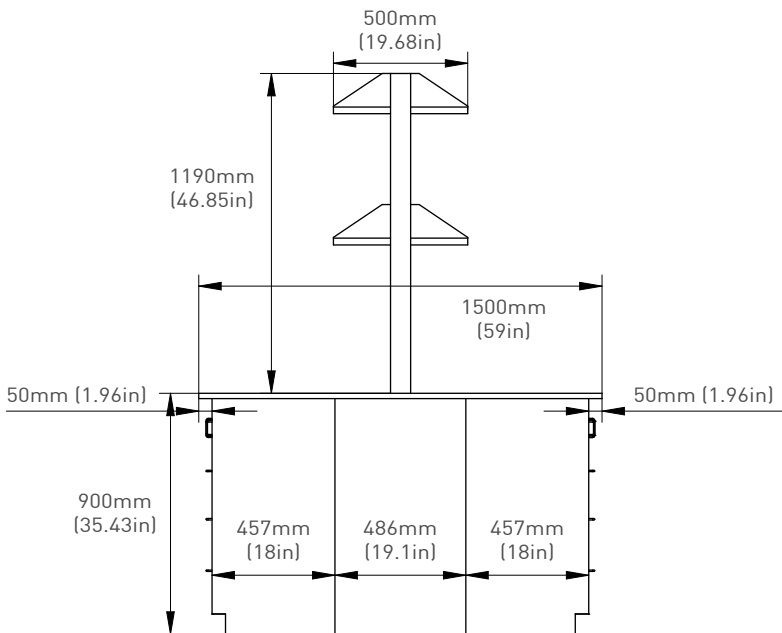
CABINET CONSTRUCTION DETAILS



Base cabinet with 29.5in deep counter top, with 1.96in front overhang. 9.56in back infill panel covering the rear service case.



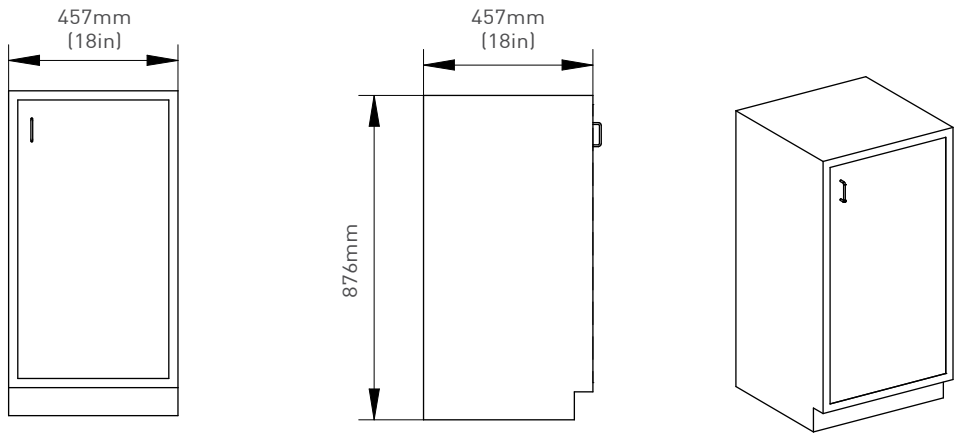
Base cabinet with 23.6in deep counter top, with 1.96in front overhang. 3.6in back infill panel covering the rear service case.



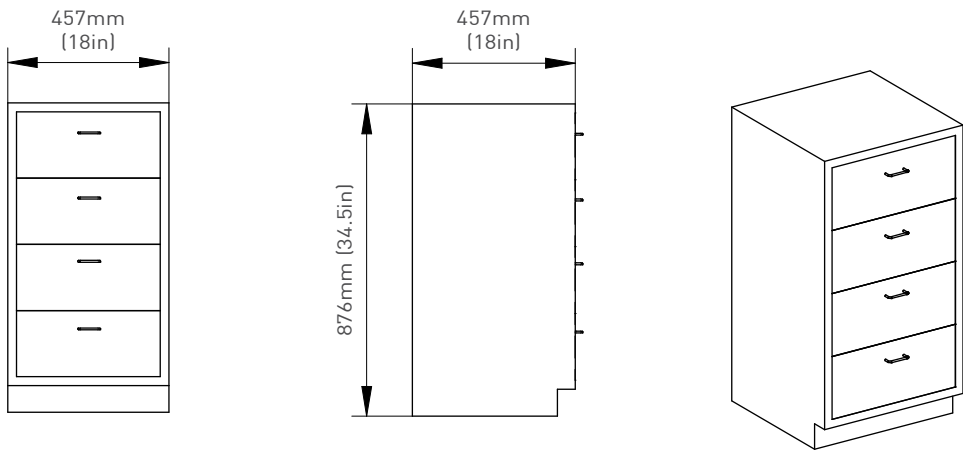
Island Bench with 59in counter top, double 18in base cabinet, and 19.1in infill panel, covering the central service chase. Optional Benchtop shelving system incorporates adjustable shelves, power, data and allotted service fitting space.

CUT SHEETS

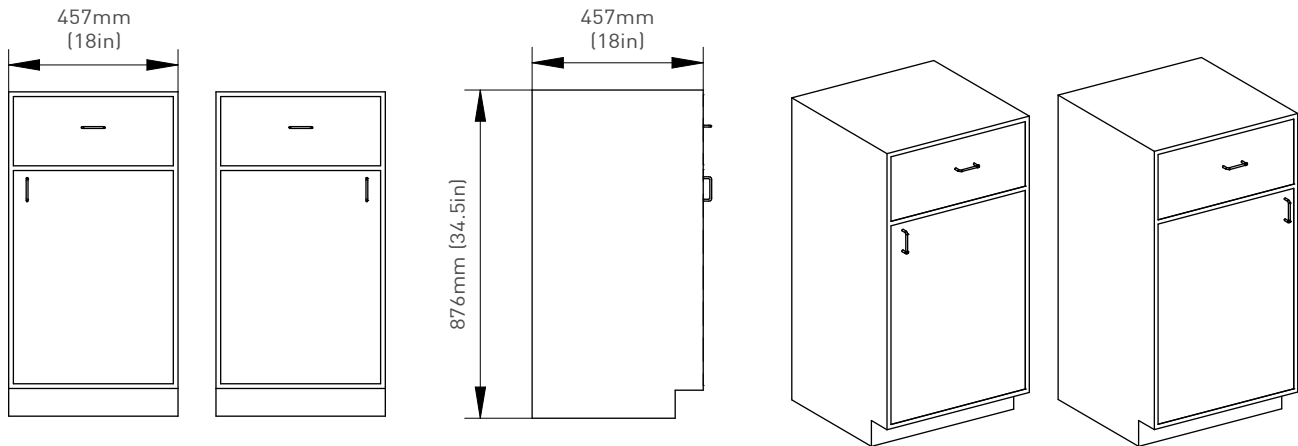
SINGLE DOOR CABINET - LENGTHS AVAILABLE IN 457MM (18IN) & 609MM (23.9IN)



DRAWER CABINET - LENGTHS AVAILABLE IN 457MM (18IN) & 607MM (23.8IN)

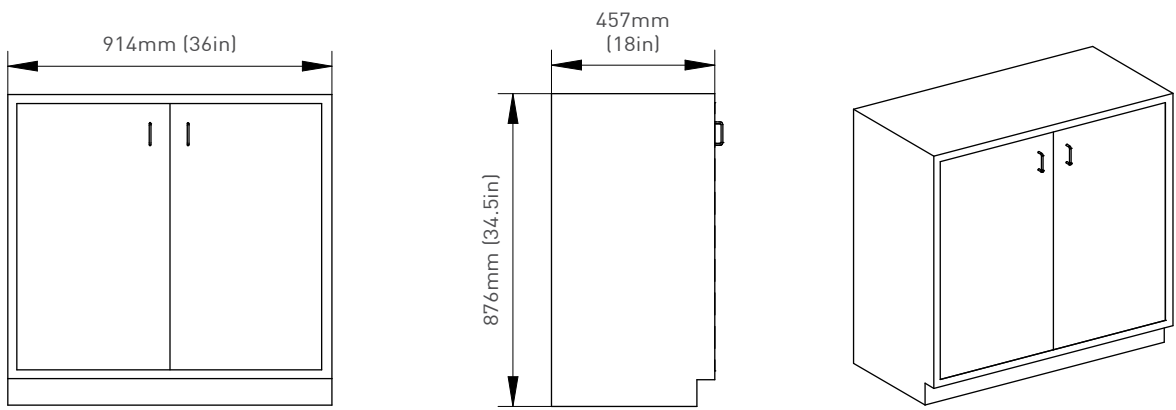


DRAWER + DOOR CABINET - LENGTHS AVAILABLE IN 457MM (18IN) & 609MM (23.9IN)

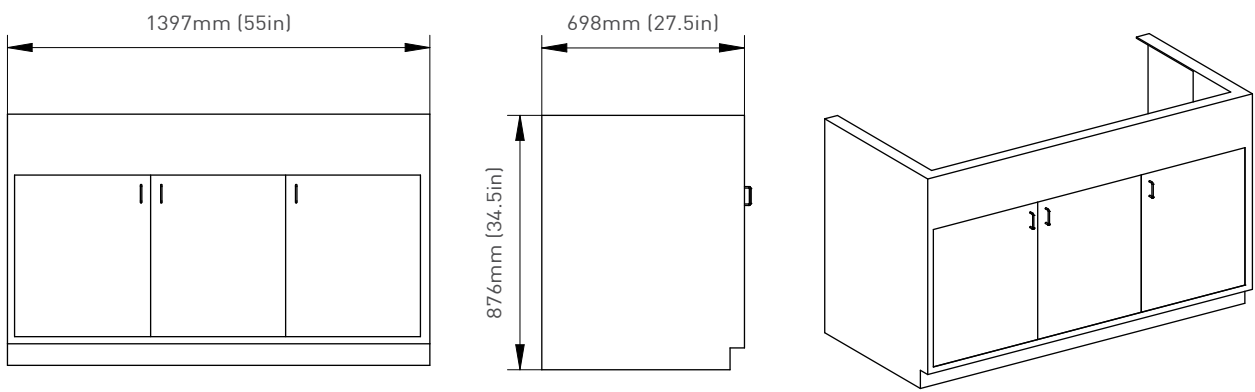


CUT SHEETS

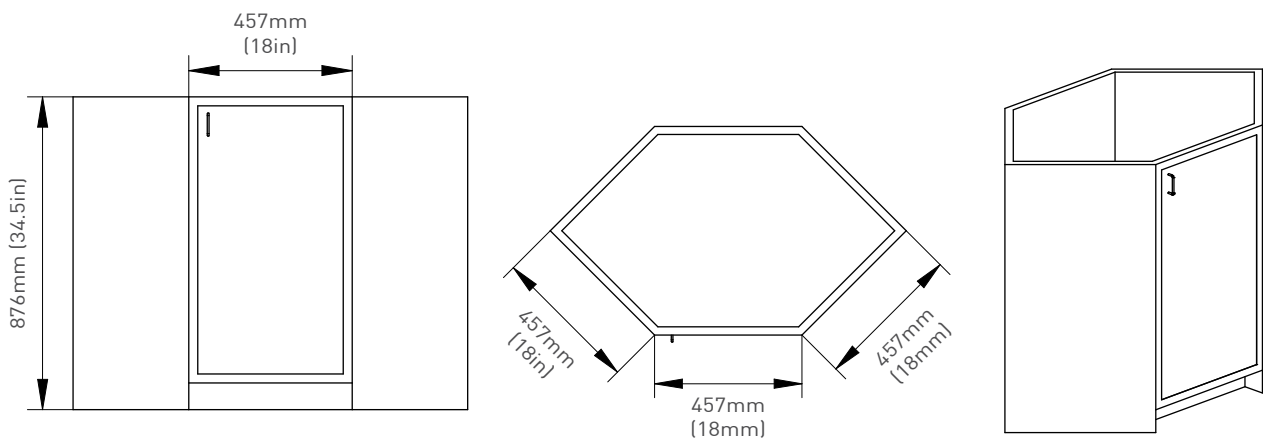
DOUBLE DOORS CABINET



SINK CABINET



CORNER CABINET



## HARDWARE

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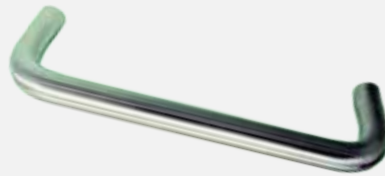
### HANDLES, AND GLIDES



#### **Insert Handle**

**Dimensions**  
115 x 42mm

**Material**  
Stainless Steel / Steel



#### **Standard Half-Rectangle Handle**

**Dimensions**  
97mm

**Material**  
Stainless Steel



#### **Half-Moon Handle**

**Dimensions**  
115mm

**Material**  
Stainless Steel



#### **Drawer Glide**

**Length**  
400mm

**Material**  
Powder-coated Steel

**Thickness / Gauge**  
1.2mm  $\approx$  16GA



### WHEELS AND HINGES



#### Wheel

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**Diameter**

2"

**Material**

Black PVC



#### Standard 5 Knuckle Hinge

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**Open Span**

180° Opening Angle

**Material**

Stainless Steel / Steel with Nickel Finish



#### Self-Closing Hinge

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**Open Span**

165° Opening Angle

**Material**

Steel with Nickel Finish

**Thickness / Gauge**

1.2mm ≈ 16GA

# CERTIFICATION



# CERTIFICATION

ISO 9001:2015

**Certificate No. SG/08/0809772059**

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**Date of Initial Assessment**

13 Feb, 2007

**Date of Registration**

14 Feb, 2007

**Date of Reissued**

25 Feb, 2019

**Scope of Registration**

**1. Design, Manufacture,  
and Fabrication of  
Laboratory Furniture  
(Steel, Wooden, and  
Stainless Steel), and  
Clean Room Equipment.**



Registered

**2. Wholesale of  
Professional, Scientific,  
and Precision Equipment.**



Registered

**Authorised by:**

A handwritten signature in black ink, appearing to be 'DM'.

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on behalf of ACS Registrars Ltd

**Certificate No. OHS 70037**

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**Date of Initial Assessment**

13 Feb, 2007

**Date of Registration**

14 Feb, 2019

**Date of Expiry**

31 Jan, 2019 (Reassessed on 04 Jan, 2019, see next page)

**Scope of Registration**

**1. Design, Manufacture,  
and Fabrication of  
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Stainless Steel), and  
Clean Room Equipment.**



Registered

**2. Wholesale of  
Professional, Scientific,  
and Precision Equipment.**



Registered

**Signed by:**

A handwritten signature in black ink, appearing to read 'L. Handley'.

---

ACSR Certification Pte Ltd



### Date of Registration

### Date of Expiry

## Scope of Registration



Registered



Registered

**Authorised by:**

*Frederick*

20

**Test Report No. 7191209305-EEC19/01**

**Brand / Model**

NEW JERSEY / AD-NJ-DD-36

**Test Requested**

SEFA 8-M Modified Load Test for Laboratory Furniture



PSB Singapore

**Certificate Dated**

15 May, 2019

**Summary of Test Results**

**Cabinet Load Test**

Load the cabinet top with 681 kgs of weight, distribute evenly over the full width and depth.

After 10 minutes, unload the cabinet.



Pass

**Cabinet Door Hinge Test**

The open door shall withstand a load of 45 kgs when applied at a point 12" from the hinge centreline.



Pass

**Base Cabinet Shelf Load Test**

Load the shelf uniformly to 45 kgs over the full width and depth.



Pass

**Performed by:**

A handwritten signature in black ink, appearing to read 'Wong Kok Leong'.

Wong Kok Leong  
Team Leader

**Approved by:**

A handwritten signature in black ink, appearing to read 'Koo Chieh Voon'.

Koo Chieh Voon  
Hardline Product Manager

**Test Report No. 7191119761-CHM15-LSM-CR1**

PSB Singapore

**Subject**Chemical Resistance Testing  
of Worktop Sample**Sample Submission / Test Date**

04 Aug 2015 / 11 - 13 Aug 2015

**Test Result - 02 Sep 2015****Chemicals with no detectable change in the material surface**

Acetic Acid (98%)	Sodium Hydroxide Flake (-)	Xylene (-)
Formic Acid (90%)	Tincture of Iodine (-)	Acetone (-)
Hydrochloric Acid (37%)	Sodium Sulfide (Saturated)	Butyl Alcohol (-)
Nitric Acid (20%)	Silver Nitrate (Saturated)	Carbon Tetrachloride (-)
Nitric Acid (30%)	Zinc Chloride (Saturated)	Chloroform (-)
Phosphoric Acid (85%)	Amyl Acetate (-)	Dichloro Acetic Acid (-)
Sulphuric Acid (33%)	Cresol (-)	Diethyl Ether (-)
Sulphuric Acid (77%)	Dimethylformamide (-)	Dioxane (-)
Nitric Acid (30%)	Formaldehyde (37%)	Ethyl Alcohol (-)
Nitric Acid (30%)	Furfural (-)	Methyl Alcohol (-)
Ammonia Hydroxide (28%)	Gasoline (-)	Methylene Chloride (-)
Sodium Hydroxide (10%)	Hydrogen Peroxide (30%)	Naphthalene (-)
Sodium Hydroxide (20%)	Methyl Ethyl Ketone (-)	Toluene (-)
Sodium Hydroxide (40%)	Phenol (90%)	Trichloroethylene (-)

**Chemicals with slight detectable change in colour or gloss, but no change to the function or life of the work surface material.**

Dichromate Acid (5%)	Nitric Acid (70%)
Chromic Acid (60%)	Sulphuric Acid (77%) + Nitric Acid (70%)

**Chemicals with objectionable change in appearance due to surface discoloration or etch, possibly resulting in deterioration of function over an extended period.**

Hydrofluoric Acid (48%)
Sulphuric Acid (96%)

**LEOW SIONG MING**  
Technical Executive

**DR LI SIHAI**  
AVP/Senior Chemist,  
Coatings & Industrial Chemicals  
Chemical & Materials

**Test Report No. 7191025103-CHM12-02-LSM-CR1**

PSB Singapore

**Subject**Chemical Resistance Testing  
of Worktop Sample**Sample Submission / Test Date**

03 Feb 2012

**Test Result****Chemicals with no visible change of color/corrosion/damage on the surface****24-hour Contact Time**

Acetone (-)	Magnesium Chloride (Saturated)	Copper Sulphate (10%)
Alcohol (Buthanol) (-)	Magnesium Sulphate Heptahydrate (43%)	Ethanol (-)
Ammonia (25%)	Calcium Hydroxide (Saturated)	Diethyl Ether (-)
Ammonia Chloride (10%)	Potassium Bromate (Saturated)	Ethyl Acetate (-)
Ammonia Thiocyanate (41%)	Potassium Bromate (30%)	Glycerine (-)
Ammonia Sulphate (33%)	Potassium Chloride (Saturated)	Sodium Nitrate (Saturated)
Amyl Acetate (-)	Sodium Carbonate (Saturated)	Sodium Soluble (Saturated)
Methyl Ethyl Ketone (100%)	Sodium Acetate (24%)	Thymol (Saturated)
Benzene (-)	Potassium Sulphate (Saturated)	Toluene (99%)
Dichloromethane (99%)	Sodium Chloride (Saturated)	Tetrachloromethylene (99%)
n-Buthyl Acetate (-)	Sodium Acetate (Saturated)	Xylene (-)
Cadmium Sulphate Hydrate	Calcium Chloride Dihydrate (41%)	Zinc Chloride (Saturated)
Lead Acetate Trihydrate (43%)	Chloral Hydrate (54%)	Zinc Sulphate
Lead Nitrate (Saturated)	Methanol (-)	Heptahydrate (33.66%)
Trisodium Phosphate (10%)	Chloroform (99.5%)	

**30-minutes Contact Time**

Acetic Acid (100%)	Citric Acid (30%)
Boric Acid (-)	Oxalic Acid (-)

**15-minutes Contact Time**

Aluminium Chloride (Saturated)	Potassium Iodide (Saturated)	Sodium Sulphite (Saturated)
Hydrogen Peroxide (30%)	Potassium Permanganate (Saturated)	Sodium Hydroxide (49%)
Methylene Blue (Saturated)	Sodium Thiosulphate (Saturated)	
Potassium Dichromate (-)	Potassium Nitrate (Saturated)	



## Test Result (Cont')

### Chemicals with very slight change of colour, only visible at certain viewing angles

#### 24-hour Contact Time

Potassium Hydroxide (49%)

Isopropanol (-)

#### 30-minutes Contact Time

Hydrofluoric Acid (15%)

Nitric Acid (60%)

### Chemicals with slight change of colour on surface

#### 30-minutes Contact Time

Sulfuric Acid (60%)

#### 15-minutes Contact Time

Silver Nitrate (5%)



**LEOW SIONG MING**  
Technical Executive



**DR LI SIHAI**  
AVP/Senior Chemist,  
Coatings & Industrial Chemicals  
Chemical & Materials

**Test Report No. CRSSA/190308670-CA05618**



**Reported Date**

19 Mar, 2019

**Sample Received**

28 Feb, 2019

**Testing Period**

28 Feb, 2019 to 06 Mar, 2019

**Test Requested**

**SVHC screening performed according to:  
197 substances in the Candidate List of  
Substances of Very High Concern (SVHC)  
for authorization published by European  
Chemicals Agency (ECHA) on and before  
15 Jan, 2019 regarding Regulation (EC)  
No. 1907/2006 concerning REACH.**

**According to the specified scope and  
analytical techniques, concentrations of  
tested SVHC are  $\leq 0.1\%$  (w/w)  
in the submitted sample.**



Pass

SIGNED FOR AND ON BEHALF OF  
SGS (MALAYSIA) SDN BHD

  
TAY SIAM PINE  
TECHNICAL MANAGER

IKM No. M/3452/6047/11/12



Test Report Form No.: SGS/T/CRS/006, Ver. 3.0, Effective Date: 11/03/08

# WARRANTY

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**Products Manufactured by Advancelab:** Advancelab(S) Pte.Ltd., warrants products that it manufactures to be free from defects for a period of 12 months for parts, commencing from the date of shipment. Advancelab's sole responsibility is to repair or replace, at its option, any part of the product that proves defective or malfunctioning during this time limit. This warranty is void if the equipment is abused or modified by the customer, is operated outside Advancelab's operating instructions or specifications, or is used in any application other than that for which it is specified. This warranty does not include routine maintenance or service procedures, breakage, shipping damage, nor damage from misuse, intentional or unintentional abuse, neglect, natural disasters, or acts of God.

**Freight Shortage or Damage:** Upon receipt of any equipment from Advancelab, customer shall immediately unpack and inspect for damage or shortage. The customer shall not accept a damaged package or a short shipment until the carrier makes a "damage or shortage" notation on both the carrier's and customer's copy of the freight bill or delivery receipt. Service title passes when the shipment is loaded, so customer is responsible for filing and collecting a freight claim. Any replacement products must be ordered and paid for separately.

Generally, customers can improve the chance of collecting on a freight claim by following these procedures:

1. Formally requesting that the carrier inspect the shipment immediately upon suspecting damage or shortage to verify condition.
2. Notifying the carrier upon discovery of concealed damage and requesting an inspection within 15 days of receipt, both in person or phone and following up via mail.
3. Keeping the shipment as intact as possible, including retaining original packaging materials and keeping the product as close to the original receiving location as possible.
4. Holding salvage for disposition by the carrier.

**All Claims:** Advancelab(S) Pte.Ltd., expressly disclaims all other warranties, expressed or implied or implied by statute, including the warranties of merchantability or fitness for intended use. Advancelab is not responsible for consequential or incidental damages arising out of the purchase or use of the products supplied by Advancelab. Advancelab is not liable for damage to facilities, other equipment, products, property or personnel of others, or of their agents, suppliers, or affiliated parties, which is caused or alleged to have been caused by products supplied by Advancelab. In any event or series of events, Advancelab's total liability for any and all damages whatsoever is limited to the lesser of the actual damages or the original invoice cost of the items alleged to have caused the damage. The customer's sole and exclusive remedy for any cause of action whatsoever is repair or replacement of the non-conforming products or refund of the actual purchase price, at the sole option of Advancelab. All claims must be made in writing within 90 days of the date the product was shipped. Any claims not made within this time limit shall be deemed waived by the customer. Advancelab is not responsible for any additional costs of repair caused by poor packaging or in-shipment damage during return.

**Warranty Returns:** All warranty returns must be authorized in advance by Advancelab and approved by writing. Unless approved in advance for good reason, all returns must be in original condition, including all manuals, and must be packaged in original packaging materials. All returned goods are to be shipped to Advancelab, freight prepaid at customer's expense.

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