ECS GLOSSARY

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ECS COMPOSITES

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Introduction

The words, terms and definitions in this glossary are used by ECS Composites to describe its products and the performance characteristics of those products. It is important to recognize that ECS' definitions of these words and terms may be unique to ECS Composites. Conventional definitions notwithstanding, ECS Composites chooses to maintain definitions which most clearly represent the meaning and usage of these words and terms in an ECS context.

A

ABS
Acrylonitrile Butadiene Styrene plastic substrate for thermoforming and injection molding.

Absolute Humidity
Mass of the water-vapor that is suspended in a specified volume of air.

Absorption
The ability of a material to collect and retain liquid water internally rather than on its surface.

Adsorption
The retention of liquid water on the surface of a material rather than internally.

Affirmative Action Program (AAP)
U.S. Government program mandates positive effort for employment and advancement of minorities.

Air Breather Valve
Manual or automatic pressure equalizing device installed on hermetically sealed cases.

Alignment Guide
Mechanical engagement hardware device to absorb shear loads at the case closure and gasket.

Alodine
Non-durable chemical conversion coating for aluminum that retains surface conductivity.

Aluminum Alloy
Blend of metals that is used for container applications (i.e. 6061 & 6063).

Anodize
Durable, non-conductive surface treatment for aluminum.

Automatic Air Breather Valve
Two-directional, pressure equalizing device with variable flow rates & pressures.

B

Bulk Molding Compound (BMC)
Glass fiber and resin mixture used for matched die compression molding.

C

Cadmium Plating
Durable, salt-fog resistant electro-deposited finish for steel.

CARC
See “Chemical Agent Resistant Coating”.

Cargo Bounce Test
See “Loose Cargo Bounce Test”.

Carrying Case
Style of transit case having one handle on the top surface of the container.

Case Depth
Variation in case depths possible, from minimum total case depth to maximum total case depth.

Case Mold
Compression molding tools used to manufacture composite case shells.

Catalyst
Additive for thermoset plastic resins which initiates polymerization and hardening.

Chemical Agent Resistant Coating
Aliphatic polyurethane paints which are resistant to decontamination solutions.

Chemical Warfare Agent (CWA)
See “N.B.C. Exposure”.

Chopped Strand Reinforcement
Fibrous reinforcement materials that have been chopped into medium length strands.

Closed Cell Foam
Cushioning material composed of innumerable, enclosed bubbles of air.

Closed Tool Molding Methods
Family of molding techniques that utilize tooling composed of male and female mold halves.

Closure
Pair of matching, male/female, aluminum extrusions that join two case halves together.

Closure Gasket
Flexible elastomer that environmentally seals the male/female closure interface.

Cold Molding
Low pressure molding process which utilizes unheated tooling.

Collapsible Container
Developmental ECS container family for commercial and industrial applications.

Combination Case
Style of equipment enclosure which serves both as transit case & housing.

Combination Gasket
Dual function case gasket provides moisture sealing & conductivity between case halves.

Commercial Transit Case
Case designed and manufactured for non-military applications.

Commercial-Off-The-Shelf (COTS)
Term which implies that the product has been previously developed and is available for sale.

Composites Materials
Moldable, fiber reinforced plastic materials used by ECS for manufacturing its products.

Compression Molding
Process used to manufacture high strength/low weight composite cases and structures.

Compression Set
Permanent loss of thickness of a cushion or gasket resulting from excess compression.

Compression Strength
Ability of a structural case or container material to sustain edge loads at all temperatures.

Computer Aided Design (CAD)
Software based drafting and design tools that operate on a variety of computer systems.

Computer Network
Group of personal computers cabled together to share data and computing tasks.

Concentrated Load Test
See “Static Load Bearing Strength”.

Condensation
Conversion of water-vapor into liquid water.

Conductive Coating
Family of paintable coatings that impart conductivity and EMI/RFI shielding.

Conductive Fiber
Electrically conductive fibers or coated fibers used for EMI/RFI shielding in composites.

Conductive Gasket
Conductive interface materials used to achieve EMI/RFI joints in a case.

Continuous Fiber Reinforcements
Reinforcement fibers that are continuous in length and are not chopped into shorter strands.

D

Data Base
Software based systems for organizing comprehensive lists of related, tabular data.

Decontamination Agent
Super-tropical bleach or DS2 solutions to remove nuclear, biological or chemical contaminants.

Decontamination Solution #2 (DS2)
Standard issue U. S. Army decontamination solution to clean equipment exposed to N.B.C. agents.

Deep Drawing
Metal forming technique used to form sheets of aluminum into rectangular shells.

Deflection
The measured motion of a flexibly mounted device from its original resting position.

Demold Temperature
Highest temperature at which a molded part can be successfully removed from the tool.

Depth of Bottom
Dimension from the closure parting line to the shell bottom, not including height of ribs.

Depth of Combination Case
Horizontal dimension perpendicular to the front panel of horizontally installed equipment.

Depth of Top
Dimension from the closure parting line to the shell top, not including height of ribs.

Depth of Transit Case
Vertical dimension when the bottom surface of the case is resting on a flat, horizontal surface.

Dept. of Environmental Quality
The State of Oregon department responsible for enforcement of Oregon environmental statutes.

Desiccant
Moisture-vapor absorbent substance used to minimize relative humidity inside a case.

Dew Point
Temperature at which condensation will occur as moisture laden air is cooled.

Drop Test
Free-fall test that causes a case to impact the floor on corners, edges & flat surfaces.

Duranotic Coating
Commercial grade alternative for hard anodizing of aluminum.

Dust Proof
Hermetically sealed case that also resists the ingress of sand and dust.

Dynamic Attenuation
Absorption of shock or vibrational energy that occurs as the cushioning system deflects.

Dynamic Deflection
Distance a suspension system will move due to force of deceleration or acceleration (F=MxA).

E

Edge Thickness
Thickness of composite material measured thru cylindrical edges of case shell.

Elastomeric Plug Assisted Molding
Compression molding method used at ECS for very high strength-to-weight composite parts.

Electro Magnetic Pulse (EMP)
Electromagnetic impact caused by a nuclear explosion.

Electro Static Discharge (ESD)
Direct current electrical arc which results from the grounding of accumulated static charges.

Electrolytic Action
Natural process of disintegration of adjoining, dissimilar metals in presence of an electrolyte.

Electromagnetic Shielding
Ability to prevent the ingress or egress of electromagnetic waves.

Electromagnetic Wave
Radiating electromagnetic energy that includes an electric field and a magnetic field.

Electro-less Nickel Plating
Method of applying a multi-layer, corrosion resisting, conductive, metallic coating to aluminum.

EMI/RFI
Electromagnetic and radio frequency interference that occurs over a broad frequency range.

Environmental Protection Agency
The United States Department responsible for enforcement of U. S. Environmental Statutes.

Epoxy Resin
Thermoset plastic substrate used for adhesive bonding and molding of composite products.

Equal Employment Opportunity (EEO)
U. S. Government law that assures equal treatment of all prospective and current employees.

Ethafoam
Dow Chemical trademark for a family of closed-cell polyethylene foam cushioning materials.

F

Fabricated Foam
Cellular cushioning material that is cut and bonded into a finished configuration.

Fabrication
Container manufacturing techniques used to join many individual parts into final assemblies.

FAX
Electronic transmission method used to convey printed information via telephone lines.

FCC 15-J
U. S. Federal Communications Commission specification for electromagnetic shielding.

Federal Acquisition Regulations
U. S. Government regulations that govern the procurement process.

FED-STD-595
Standard colors and glossiness of finishes.

Fiberglass
Microscopic filaments of glass converted into an immense variety of composite reinforcements.

Fiberglass Mat
Sheet fiberglass reinforcement materials in many sizes, weights and fiber types.

Fiberglass Reinforced Plastic
Diverse family of composites made from various polyester resins and glass reinforcements.

Flame Retardant
Generic term for discussing materials or additives that resist combustion.

Flange Mounted
Method of attaching equipment into a combination case which has a flanged mounting surface.

Flange Opening
Maximum dimensions of flange mounted equipment that will fit into a flanged case.

Flat Wall Thickness
Caliper of composite case shells on flat sides, ends, top & bottom.

Flexural Strength
Ability of a structural case or container material to sustain bending loads at all temperatures.

Flow Form Compression Molding
High pressure compression molding technique for high strength thermoplastic composite parts.

Flow Rate
Maximum cubic volume per second that can flow thru an automatic air relief valve.

Foam
See “Foam Cushioning”.

Foam Cushioning
Flexible, cellular, materials made from thermoplastic or thermoset plastics.

Foam Suspension Operating Case
Style of container that holds equipment in foam cushions for operation while installed therein.

Fragility
Measure of the shock and/or vibrational level at which physical or functional damage occurs.

FRP
See “Fiberglass Reinforced Plastic”.

Fungus Proof
Material which will not nourish the growth of a wide range of fungi.

G

Gasket
See “Closure Gasket”.

Gel Coat
Thermoset resin surface coating for hand lay-up molded fiberglass parts.

Glass-Fiber Reinforced Plastic
Term synonomous with FRP. Composites made from polyester resins and glass reinforcements.

GRP
See “Glass-Fiber Reinforced Plastic”.

H

Hammer Blow Test
High energy impact test normally reserved for shipboard installed equipment.

Hand Lay-up Molding
Open molding method for hand application of resin and glass fiber reinforcement materials.

Handle
Permanently installed hardware device that is used to hand carry a container.

Handle Pull Test
Evaluates the ability of a handle to resist jerking loads applied to it.

Hard Anodize
Method of applying durable, abrasion resistant, non-conductive finish to aluminum.

Harmonic Frequencies
Secondary frequencies at which a flexible mounting system will amplify vibration forces.

Heavy Duty Transit Case
Style of transit case. Commercial equivalent of the most durable MIL-SPEC containers.

Height of Combination Case
Vertical dimension parallel to the front panel of horizontally installed equipment.

Hermetically Sealed
Case or enclosure that is air-tight, water-vaporproof and water-proof.

Horizontal Radius of Case
Outside radius of the four horizontal edges of a case shell.

Hot Water Test
MIL-SPEC immersion test used to create internal air pressure to test for leakage.

Humidity
Measure of the weight of water-vapor that is contained in a specified volume of air.

Humidity Indicator
Device used for measuring humidity level inside hermetically sealed containers.

Humping Impact
Longitudinal force applied to railroad cars as individual cars are connected to form a train.

Hydrolytic Stability
Ability of a material to remain unchanged after long term exposure to high heat and humidity.

Hygroscopic
Tendency of a material to absorb water-vapor from moist air.

I

Immersion Test
Any leakage test requiring a case to be evaluated while fully submerged in water.

Impact Resistance
Measured ability of a container or enclosure to resist damage due to drops and impacts.

Inclined Plane Impact
Table mounted impact test reserved for heavy containers that exceed 4-man weight lift limits.

Infrared Detectability
The thermal contrast of a container or enclosure when compared to its surroundings.

Injection Molding
Molding method which forces plastic resins to flow into the cavities of a closed mold.

Inorganic Filler
Granular solids blended into some composites to reduce cost and improve opacity.

Isophthalic Polyester Resin
Corrosion resistant polyester resins used by ECS & ideally suited for N.B.C. decontamination.

L

Laminated Material
Multi-layer sheet materials that incorporate inner cores and outer skins.

Latch
Hardware device which draws together the male/female closure extrusions & compresses the gasket.

Length of Case
Normally the longer of the two horizontal dimensions of a case shell.

Loose Cargo Bounce Test
Test of container durability. Simulates rough terrain transport of unrestrained case.

M

Make-for-Inventory Manufacturer
Company that builds standard products for its inventory and then sells these finished items.

Make-to-Order Manufacturer
Company like ECS that builds each product after receiving a purchase order from the customer.

Manportable Weight
Weight and configuration of a container that allows either 1 man, 2 man or 4 man carrying.

Manual Air Breather Valve
Non-automatic functioning pressure equalizing device installed on hermetically sealed cases.

Man-Portability
Ability of a container and its cargo to survive shipping and handling hazards in actual use.

Matched Metal Molding
Compression molding techniques that utilize tooling with rigid male and female halves.

Material
Composite and non-reinforced thermoplastic case shell materials available from ECS.

Maximum Depth
Maximum vertical dimension of a case (top, bottom or overall), not including height of ribs.

Maximum Difference of Top & Bottom
Draft angle of the case mold determines maximum difference of top & bottom halves.

Maximum Shell Depth
Tallest possible case shell. Equals depth of case mold minus 0.50 inch.

Maximum Top + Maximum Bottom
Overall depth of tallest possible case made from each mold, not including height of ribs.

Mean Dimensions
Average shell length or width including the effect of tooling draft angles and tolerances.

Mean Shell Length
Average dimension of long side of rectangular case shell.

Mean Shell Width
Average dimension of short side of rectangular case shell.

Metallic Material
Most commonly aluminum and steel for cases, enclosures and hardware items.

Metallic Overlay Shield
EMI/RFI/TEMPEST shielding of composites by lamination of copper or nickel foil.

Military Transit Case
Broad range of non-operating containers and enclosures for military applications.

Military Type
Case designed and manufactured for military applications and MIL-SPEC certification.

Milled Fiber Reinforcement
Fibrous reinforcement materials that have been chopped into very short strand lengths.

MIL-A-8625
Anodized coatings for aluminum.

MIL-C-24712
Powdered epoxy coatings (metric).

MIL-C-26074
Electroless nickel coatings for metals.

MIL-C-4150
Waterproof & water-vaporproof transit cases & storage cases.

MIL-C-46168
Aliphatic polyurethane, chemical agent resistant coatings.

MIL-C-5541
Alodine, chemical conversion coatings for aluminum.

MIL-HDBK-304
Military standardization handbook - cushioning design.

MIL-I-45208
Inspection system requirements.

MIL-P-116
Methods of preservation for packaging.

MIL-P-26154
Polyurethane foam, rigid or flexible, for packaging.

MIL-STD-101
Test procedures for packaging materials.

MIL-STD-108
Definitions and basic requirements for electronic enclosures and electronic equipment.

MIL-STD-189
19 inch racks for electrical equipment and panels.

MIL-STD-210
Climatic information to determine design and test requirements for military systems and equipment.

MIL-STD-454
Standard requirements for electronic equipment.

MIL-STD-461
Electromagnetic emission and susceptibility requirements for the control of electromagnetic interference.

MIL-STD-462
Measurement of electromagnetic interference characteristics.

MIL-STD-810
Environmental test methods.

MIL-T-21200
Test equipment for use with electrical equipment.

MIL-T-28800
Test equipment for use with electronic equipment.

MIL-T-4734
Transit cases & combination cases for ground electronic equipment.

Minimum Depth
Minimum, vertical dimension of a case (top, bottom or overall), not including height of ribs.

Minimum Shell Depth
Shortest possible case shell. Equals horizontal radius of shell plus 1.00 inch.

Minimum Top + Maximum Bottom
Overall depth of case with shortest top shell and tallest bottom shell, not including ribs.

Modular Assembly
Manufacturing technique which utilizes modular components to assemble a container.

Moisture-Vapor Transmission Rate
Measure of the weight of water-vapor that will pass thru a sheet material in a specified time.

Mold
Tooling used to manufacture composite cases, containers and foam cushions.

Mold Condition
Classification method used to categorize case design limitations of individual ECS molds.

Mold Numbers
Sequential numbering system used to identify each ECS mold and tool.

Monomer
Non-polymerized fluid hydrocarbon chemical.

MVTR
See "Moisture-Vapor Transmission Rate".

N

Natural Frequency
Frequency where flexible mounting system will show highest amplification of vibration forces.

Nickel Web Shield
EMI/RFI shielding of composites by addition of molded-in layers of nickel fibers.

Nineteen Inch Rack Mount Case
ECS enclosures designed for the transportation and operation of 19 inch rack mountable equipment.

Non-Metallic
Plastics and composites that are substitutes for metallic materials.

Non-Operating Case
Container or enclosure not intended for the operation of equipment while enclosed therein.

Non-Reinforced Thermoplastic
Thermoplastic substrates without fibrous reinforcements for enhanced physical properties.

N.B.C. Decontamination
Removal of nuclear, biological and chemical warfare agents from cases and enclosures.

N.B.C. Exposure
Nuclear, biological or chemical weapons that expose personnel and equipment to these threats.

O

Open Cell Foam
Cushioning material composed of a predominately open web of cellular walls and fibers.

Open Tool Molding Methods
Family of molding techniques that utilize tooling which is either a male or a female shape.

Operating Style Case
Containers and enclosures that allow the operation of enclosed equipment while contained therein.

Option
Components or assemblies that can be used in conjunction with standard or custom containers.

Orthophthalic Polyester Resin
Low cost polyester resin used in commercial products, not suitable for N.B.C. decontamination.

Oxidation
Chemical deterioration of an active metal that results from its spontaneous reaction with oxygen.

P

Panel Dimensions
Recommended length, width and corner radius of panel for flange mounted equipment.

Panel Gasket
Conductive or non-conductive gasket used to seal panel mount equipment to a flanged case.

Panel Hole Pattern
The quantity, size and location of panel mounting fasteners on a flange mounted case.

Panel Mount Case
Style of combination case that allows attachment of equipment onto a flanged mounting surface.

Parting Line
The visible joint between two closure extrusions when the case is closed.

Pendulum Impact Test
Impact test that allows a free-swinging container to impact an immovable wall.

Personal Computer
Family of smaller computers designed for individual users or networks of multiple users.

Piano Hinge
A hinge composed of two continuous leaves of anodized aluminum.

Pigment
Permanent color additive blended into plastic substrates prior to molding case shells.

Plastic
Generic term for an immense range of moldable polymerized organic chemicals.

Plastic Substrate
Generic term for most any plastic resin or plastic material.

Plating Methods
Electro-deposited protective coatings for metallic parts. i.e. cadmium, zinc, copper & nickel.

Polyester Resin
Thermoset plastic substrate used in the molding of composite products.

Polyethylene
Thermoplastic substrate available in a variety of densities, grades and colors.

Polyethylene Foam
Family of closed cell, thermoplastic, flexible cushioning materials used for packaging.

Polymer
A chemically or mechanically cross-linked plastic compound composed of long chain molecules.

Polymerize
The process of chemically cross-linking and hardening a liquid resin into a solid plastic.

Polyurethane Foam
Family of open cell, thermoset plastic, flexible cushioning materials used for packaging.

Powder Coating
Extremely durable finish for metals. Powdered resin is electrostatically applied and baked.

PPP-C-1752
Polyethylene foam, unicellular, flexible, for packaging.

Pressure Forming
Manufacturing method for forming heated sheets of thermoplastic materials into a female mold.

Pressure Relief Valve
Manual or automatic pressure equalizing device installed on hermetically sealed cases.

Pressure Retention Test
MIL-SPEC test measures the loss of internal pressure, in a sealed case, over time.

Pre-formed Reinforcement
Pre-shaped charge of glass fiber reinforcement strands used in compression molding.

Pre-impregnated Composite Material
Roll form molding material which is saturated with resin, catalyst and additives.

Product Performance Testing
Periodic testing of a product to verify its compliance with qualification test requirements.

Projectile Impact Test
Evaluates ability of a container material to resist the concentrated impact of a blunt object.

R

Rack Height
Vertical space occupied by a 19 inch rack mountable device. Each unit of height is 1.75 inches.

Radius of Shell
Vertical and horizontal radaii of outside edges and corners of a shell.

Rain Proof
Non-hermetically sealed case that resists the ingress of water sprayed onto its surfaces.

RDD-STD-2
Transit & combination cases for electronic command equipment.

Reinforced Thermoplastic Composite
Thermoplastic substrates with fibrous reinforcements for enhanced physical properties.

Reinforced Thermoset Composite
Thermoset substrates with fibrous reinforcements for enhanced physical properties.

Relative Humidity
Percentage of water-vapor in the air compared to the maximum possible at a given temperature.

Reseal Pressure
Approximate pressure differential at which an automatic breather valve reseats and is closed.

Resin
Generic term for an extremely broad range of thermoplastic and thermosetting plastic materials.

Resin Transfer Molding (RTM)
Molding method for reinforced plastics that injects catalyzed resin around the reinforcement materials.

Reaction Injection Molding (RIM)
Molding method for thermoset plastics that injects catalyzed resin into a closed mold.

Resonant Frequency
See “Natural Frequency”.

Reusable Containers & Enclosures
Containers able to survive and function properly after long term handling, transportation and use.

Rib Patterns
Group of raised or recessed indexing features on top and bottom of case shells.

Rigid Rack-Mount Case
19 inch rack mountable enclosure that does not include shock or vibration mounts.

Rotational Molding
Molding method which utilizes a rotating, heated mold to make hollow thermoplastic parts.

Rough Handling
Normal abuse that occurs to a reusable container during its lifetime.

S

Salt Fog Resistant
Capable of resisting the corrosive effects of salt and/or salt laden water or fog.

Salt Spray
A salt (sodium chloride) laden mist such as sea water.

SF1411
U. S. Government form for complete display of costs for manufactured items.

Shear Strength
Ability of structural container material to sustain shear loading at various temperatures.

Sheet Molding Compound (SMC)
Glass fiber and resin premix used for matched die compression molding.

Shell Depth
Range of vertical dimensions possible for each ECS case shell.

Shell Material
Compression molded thermoset or thermoplastic composite materials.

Shielding
Containment or exclusion of EMI/RFI/TEMPEST/EMP/EST threats harmful to enclosed equipment.

Shock
Acceleration or deceleration force that is felt by an object as its speed is changed.

Shock Attenuation
Ability of case and cushioning system to deflect and thereby absorb the energy of impact.

Shock Mount
Combined energy-absorbing and vibration-damping mounting system for containers.

Shock Pulse Test
Table induced shock impulse test, not to be equated with the free-fall drop test.

Solar Gain
Temperature increase an object experiences due to exposure to solar radiation.

Solar Radiation
Energy that is radiated from the sun onto the surfaces of the earth.

Spray-up Fiberglass Molding
Open tool molding process that utilizes a chopper gun to apply resin and reinforcement materials.

Spreadsheet
Software based systems for organization and analysis of columnar and tabular data.

Spring Rate
Amount of pressure required to deflect a spring, shock-mount, or cushion a defined distance.

Stacking Rib Pattern
See “Rib Patterns”.

Stacking Test
See “Static Load Bearing Strength”.

Standard Product
Pre-engineered case or enclosure specified with a specific group of features and hardware.

Static Deflection
The distance a suspension system will deflect due only to the weight of the suspended equipment.

Static Load Bearing Strength
Ability of container to resist deformation by compression loads at operating temperatures.

Static Load Test
ECS copyrighted name for its computerized listing of currently available cases in inventory.

Stratification
Tendency of fiber reinforcements to become parallel during the molding of a composite part.

Strength-to-Weight Ratio
Measure of the strength achieved by a given weight of reinforced material.

Structural Attenuation
See “Structural Damping”.

Structural Damping
Ability of a composite material to absorb and dissipate vibration energy imparted to the case.

Structural Injection Molding (SRIM)
Molding method for reinforced thermoset plastics that injects catalyzed resin into a closed mold.

Submersion Test
See “Immersion Test”.

Super Tropical Bleach (STB)
Standard decontamination solution used to clean equipment after exposure to N.B.C. agents.

Surface Resistivity
Measure of contact electrical resistance of EMI/RFI/TEMPEST shields & conductive composites.

Surface Temperature
Surface temperature of container resulting from solar radiation and internally generated heat.

T

TEE
Transportable electronic enclosure. Family of combination cases for 19 inch rack equipment.

Temperature Range
Normally occurring temperatures in the natural environment. See "MIL-STD-210".

Temperature Shock Test
Evaluates ability of a container to tolerate rapid changes in temperature.

TEMPEST
High level electromagnetic shielding effectiveness required for many military applications.

Tensile Strength
Ability of structural case or container material to sustain pulling forces at all temperatures.

Thermoforming
Family of manufacturing methods for forming heated sheets of thermoplastic materials.

Thermoplastic Material
Family of plastic materials that are capable of being repeatedly melted and re-hardened.

Thermoset Plastic Material
Family of chemically modified plastic materials that cannot be re-melted or re-used after molding.

Thermo-Stamped Composite (TSC)
Family of continuous glass fiber reinforced, compression moldable, thermoplastic composites.

Tooling
Any mold, die or fixture used to manufacture ECS cases and components.

Transit Case
Rigid or semi-rigid container used to transport and handle delicate equipment.

Transportability
Capable of being safely shipped, handled and carried by a variety of transportation methods.

Transportable Electronic Enclosure
Family of combination cases for 19 inch rack mountable equipment.

Trimmed Shell Dimensions
The range of depths possible for any individual case shell, not including ribs or closure.

TSC Molding
Compression molding technique for thermoplastic composites that yields high strength parts.

U

U (UNIT)
Vertical space occupied by a 19 inch rack mountable device. Each unit of height is 1.75 inches.

Ultrasonic Bonding
High frequency vibrational method for inserting or bonding thermoplastic materials.

UL-94/V0, V1, & V2
Underwriters laboratory specification for very low flammability testing of plastics.

V

Vacuum Bag Molding
Open tool molding method that utilizes vacuum pressure during the molding process.

Vacuum Retention Test
MIL-SPEC test measures the loss of internal vacuum, in a sealed case, over time.

Valise Case
Style of hinged, clamshell transit case similar in design to a hard shell suitcase.

Vertical Radius Of Case
Outside radius of the four vertical edges of a case shell.

Vibration
Reciprocating motion of an object that has been forced from a point of rest.

Vibration Damping
Absorption of vibrational motion that allows a vibrating object to come to rest.

Vibration Test
Table mounted test that imparts rapid shock impulses to a case over a range of frequencies.

Viscosity
Measure of the flowability of a liquid.

W

Wall Thickness
Alternative thicknesses available in composite case shells.

Water Resistant
Capable of shedding water, with minimal ingress, when subjected to a rain or water splash test.

Water Tight
Capable of preventing the ingress of water under all specified test conditions.

Water-Vaporproof
See “Hermetically Sealed”.

Width Of Case
Normally the shorter of the two horizontal dimensions of a case shell.

Word Processor
Software based systems for creating, editing and printing text.

WVTR
See “Moisture-Vapor Transmission Rate”.

Y

Yield Temperature
Temperature at which non-reinforced thermoplastics permanently deform or structurally fail.

Z

Zinc Plating
Non salt-fog resistant electro-deposited finish for steel.