## **POLYCARBONATE FAQ's**



## 1) Q: What is included with a standard Integra enclosure?

A: Each enclosure is shipped with the base and cover assembled and cover gasket installed. Premium enclosures come with a set of cover screws and hole plugs as well as mounting feet and screws. Genesis enclosures come with MultiMax Rail System and mounting flanges.

#### 2) Q: Are the enclosures watertight (NEMA 4X)?

A: Yes. All Integra enclosures have a minimum NEMA 4X rating. NEMA 6P rated enclosures are also available, allowing for temporary submersion up to 6 feet for up to 24 hours.

## 3) Q: What colors are available?

A: Standard color for polycarbonate enclosures is gloss gray but we do stock select sizes in white or black as well. For custom molded color, please refer to page 6 or contact customerservice@integraenclosures.com for a quote.

#### 4) Q: Are the enclosures UL-listed? How about Canada?

- A: Premium, Impact<sup>®</sup>, and Genesis Series enclosures are listed as UL-50E, Cabinet and Cutout Boxes. Our file number is E207562. Integra is also C-UL Listed for use in Canada and we are Marine Listed for coastal or marine applications.
- 5) Q: I notice that the covers and sidewalls are not flat. Why is that, and does the shape preclude the installation of hubs and components?
  - A: The covers and sidewalls of all Integra Premium line enclosures are slightly convex. This design creates a much stronger box that is better suited to protect in all environments. "Flat" non-metallic boxes can become warped over time which will cause the box to not seal properly. Integra's innovative design resists warping, creating a water tight seal that lasts!

## 6) Q: Are modifications available?

A: Yes, modifications such as machined holes or slots are available on all polycarbonate enclosures. You can also request access to CAD drawings of our enclosures to plan your exact modifications. visit www.IntegraEnclosures. com to register for drawing access and request a custom quote.

Integra can also provide latch installation, DIN-rail installation, or back panel installation. Contact customerservice@integraenclosures.com for more information and a quote.

#### 7) Q: Are back panels available from Integra?

A: Yes, we offer back panels in coated steel, bare aluminum, PVC and galvannealed steel.

#### 8) Q: If I use DIN-rail mounted components, will I need a back panel?

A: Probably not. All Integra enclosures feature molded-in mounting bosses at intervals of approximately 1 inch, located around the entire perimeter of the enclosure base. This allows you to install DIN rails at virtually any location, avoiding the need and expense of a back panel.

#### 9) Q: How does the Integra Back Panel Adjustment System work?

A: The Integra Back Panel Adjustment System consists of four mounting pads that slide on T-shaped rails molded into the four corners of the enclosure base. The mounting pads, which are provided with brass threaded inserts for panel attachment, are held in place by inserting a set screw (BPAK part numbers) or a thumb screws (UBPAK part numbers). These screws lock tight against the T-Rails, keeping your panel in the desired location.



## 10) Q: What if I buy an opaque cover enclosure and decide later that I really want a clear cover?

A: You can order clear covers, with gaskets installed, and easily replace it in the field.

## 11) Q: What are the advantages of the Integra product over the fiberglass product I am buying now?

A: There are several important advantages:

- The engineered polycarbonate enclosure has dramatically better impact resistance. For example, Integra polycarbonate enclosures have an impact resistance of over 900 in-lbs, while fiberglass typically has an impact resistance of less than 220 in-lbs.
- Polycarbonate enclosures are available with a clear cover. For a fiberglass product, an expensive and potentially leaky window installation is required.
- Polycarbonate enclosures feature a 100% non-metallic hinge design. Fiberglass products normally feature a steel hinge pin that will eventually corrode.
- Polycarbonate enclosures tend to offer more features inside the enclosure to support component installation. For
  example, fiberglass products tend to have only four mounting bosses on the base of the box. Integra products
  feature those same four mounting bosses, plus molded-in mounting bosses surrounding the perimeter of the
  enclosure. Integra also offers the patented Back Panel Adjustment System, which eliminates the need for
  expensive stand-offs and allows for the installation of multiple panels.
- Polycarbonate enclosures are much easier and safer to machine, with none of the dust and splintering associated with fiberglass.
- Fiberglass enclosures will "bloom" when exposed to sunlight. In fact, manufacturers of FRP enclosures recommend painting their products. This is not necessary with Integra polycarbonate enclosures.

## 12) Q: I notice that the enclosures are not metric. Why not, and how do you address this concern?

A: Integra provides "dual-dimension" data for our line of enclosures. Also, note that our "DIN rail friendly" design speaks directly to the need for European-designed components and the spreading use of DIN rail mounted components.

## 13) Q: Can Integra enclosure products be mounted underwater or underground?

A: Integra offers multiple configurations of NEMA 6P / IP68 rated enclosures which can offer protection in underground vaults and other locations that have the potential to flood. Integra 6P rated enclosures remain water tight in up to 6 feet of water for up to 24 hours.

## 14) Q: What kind of thread locker can be used on Integra enclosures?

A: Chemical - Chemical thread locking compounds are not recommended. Anti-seize thread release agents are also not recommended.

**Mechanical -** A mechanical thread locking device is acceptable, such as a lock washer, provided a flat washer is used between the locking element and polycarbonate.

## 15) Q: What are the torque specifications for Integra enclosures?

A: Mounting Feet/Flange - 25-30 in-lbs. Back Panel - 10-15 in-lbs. Enclosure Cover - 8-10 in-lbs.

## 16) Q: How do I clean an Integra enclosure?

A: Only light soapy water is recommended to clean your polycarbonate enclosure.

# **STAINLESS STEEL FAQ's**



## 1) Q: What is included with a standard Integra stainless steel enclosure?

A: Unless specified otherwise, each enclosure is shipped assembled with the base and cover made of 304 stainless steel and polyurethane foam-in-place gasket. The enclosure also comes with a quarter-turn latch, rivet nuts and bolt-on mounting tabs, removable 316 Stainless Steel hinge (Pinge<sup>™</sup>), B.P. standoffs and grounding lugs.

#### 2) Q: Are the enclosures watertight (NEMA 4X)?

A: Yes, all Integra stainless steel enclosures are NEMA 4X rated. Aluminum enclosures require powder coating to be NEMA 4X rated.

## 3) Q: What colors are available?

A: Stainless steel enclosures are finished with #4 grade finish. Aluminum enclosures have a mill finish unless powder coated. Custom powder coated color is available. Contact us directly for a quote.

#### 4) Q: Are the enclosures UL-listed? How about Canada?

A: Integra's metal NEMA 4X enclosures are constructed in accordance with the UL508A Standard for Industrial Control Panels and CSA C22.2 Industrial Control Equipment and are both UL and C-UL listed for use in the US and Canada.

#### 5) Q: Are modifications available?

A: Full modification services are available at Integra to ensure your enclosure has the required dimensions, accessories and holes you need. Modifications are made during assembly, and include but are not limited to: custom sizing, custom machining, custom back panels, multiple mounting options, latching options and hinging options. Call us to discuss your unique requirements.

#### 6) Q: Are back panels available from Integra?

A: Yes, we offer back panels in stainless steel, painted carbon steel, aluminum, and galvanneal. We also offer custom back panels. Contact us directly for a quote.

#### 7) Q: Why does my enclosure have rust spots on it?

A: Discoloration on outdoor enclosures is typically caused by environmental exposure factors such as soil, saltwater, and fertilizer that contain iron particles that can collect on the enclosure surfaces and cause discoloration. This is not the stainless steel rusting; these compounds can collect along welded seams because the welding/ polishing process and can create a slight magnetic pull. We recommend a thorough cleaning immediately after installation to ensure the stainless steel is clean and free of oils and other contaminants. Chemical exposure is a different category and should be evaluated on a case to case basis.

## 8) Q: What type of materials are available to manufacture my enclosure?

A: Integra offers multiple material options for your enclosure, including 304 stainless steel, 316 stainless steel, and 5052-H32 aluminum. Please contact factory if you have other requirements.

#### 9) Q: Can you label, print, laser etch, or silk screen my stainless steel enclosure?

A: Yes, multiple decoration methods are available. Please contact the factory directly for a quote.



## 10) Q: What does it mean if my enclosure is made with 14 gauge or 16 gauge material?

A: Gauge refers to the thickness of the stainless steel material being used. Depending on the size of your enclosure, the gauge varies.

Stainless Steel Gauge Number	Inches	Millimeter
14	.07812	1.984
16	.0625	1.587

## 11) Q: What is the largest enclosure you can manufacture?

A: Integra manufactures custom enclosures up to 72" tall. However, we have the capabilities to manufacture a wide variety of sizes. Please contact the factory directly for size inquiries.

## 12) Q: What is the best way to send you a drawing of my enclosure design?

A: We accept drawings in the format of a PDF, DWG, STP, or AutoCAD drawing. If these options aren't available, email customerservice@integraenclosures.com a photo or copy of your hand drawn drawing and we will configure it. Our engineering team will work with you on the drawing until it is approved.

## 13) Q: Are there any restrictions on the amount or size of my custom hole pattern?

A: There are no restrictions to the amount or size of the machined hole patterns, as long as the cutouts remain within the hole-to-edge limitations. Below is a table of the minimum hole-to-edge distance for custom machined cutouts. This prevents deformation of the cutout during forming.

Material Thickness	Min. Hole-To-Edge Distance
0.060 in.	0.180 in.
0.075 in.	0.225 in.
0.090 in.	0.270 in.
0.105 in.	0.315 in.

## 14) Q: What is your lead time for a custom enclosure?

A: All lead times start from when our customer service team receives the purchase order. Please contact factory for current lead times.

## 15) Q: How is my enclosure packaged and shipped?

A: Standard packaging is one unit per carton, packed to ensure safe delivery to your location. If you have any special requirements for shipping, contact us and we can work to meet your requirements. Integra Enclosures is not responsible for lost or damaged product during shipment.

## 16) Q: Are PEMs NEMA 4X rated?

A: PEMs by themselves are not 4X rated. However, a 4X rating can be achieved using powder coated PEMs. Other 4X rated options include CD studs and rivet nuts. Please contact the factory directly with any additional questions and refer to page 93 for NEMA rating details.