

## Installing Handrails

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### Overview<sup>1</sup>

Below are instructions for properly installing a handrail bracket to a stainless steel tube. This requires tapping and drilling the handrail and then attaching the handrail bracket to the handrail. This may require two people. Another way to connect the handrail bracket to the post, is by welding.

NOTE: For cable systems, handrails must be installed before your cable. The handrail and handrail brackets will provide the necessary support for the posts while the cable is being installed.

**Caution:** Wear protective ANSI approved safety glasses, working gloves and breathing mask at all times

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### Tools Required ([links included](#))

- 1) Marking pen
  - 2) [Center punch tool](#)
  - 3) [Drill press](#)
  - 4) [Tap tool](#)
  - 5) [Cutting oil](#)
  - 6) [Stainless steel machine screws](#)
  - 7) [For round tube only] [self-centering drill press jig](#)
  - 8) [Cobalt drill bits](#)
  - 9) Hand power drill
  - 10) Phillips screw driver
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### Drilling and Tapping

- 1) Position handrail on saddles or handrail brackets
  - 2) Mark your drilling points with a pen using the posts and saddles as a template
  - 3) Remove saddles from post or handrail bracket (in the case it is removable)
  - 4) Center punch your marked drilling points; this will keep the drill bit from skidding
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<sup>1</sup> This document includes hyperlinks and is intended to be viewed as a PDF file rather than print material

- 5) Adjust the drill press to 620 rpm
- 6) Drill the tube at your marking points using Cobalt drill bits, the drill press and the cutting oil. [Round tube only: you will need a self-centering drill press jig]

Screw or Bolt	Use This Drill Bit	Closest Fractional	Decimal Inches
10-24 NC	#25	5/32"	0.1495
10-32 NF	#21	5/32"	0.1590
M5x0.8mm*	4.3mm	11/64"	0.1693
M6x1.0mm	5.2mm	13/64"	0.2047
M8x1.0mm	7.1mm	9/32"	0.2795
M8x1.25mm	6.9mm	17/64"	0.2716

\* M5x0.8x12mm screws are provided with our wall handrail brackets

- 7) Tap the tube using the hand-powered drill (at low speed) and the corresponding tap bit  
*Note: If there was an issues tapping, tap again with the next size and corresponding screw*
- 8) Repeat steps 4-7 to all your marking points
- 9) If necessary, reinstall saddles with the handrail attached back onto your posts or handrail brackets
- 10) [Follow the instructions in this document for installing the necessary end caps, flush angles, or wall returns to complete your installation.](#)

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NOTE: A small amount of surface corrosion is not uncommon after a some exposure to weather or salty conditions. We recommend using our [passivation solution](#) or some sort of stainless polish to keep any surf corrosion from happening; more information available at [https://inlinedesign.us/engineering\\_specifications](https://inlinedesign.us/engineering_specifications).