sitetronics

# M2 / M3
# ST-HSI

## BRASS THREADED INSERTS FOR THERMOPLASTICS

- BRASS THREADED INSERTS
- TWO STRAIGHT AXIAL RETENTION BANDS
- REUSABLE METRIC MACHINE-SCREW THREAD
- M2 AND M3 VARIANTS

### APPLICATIONS

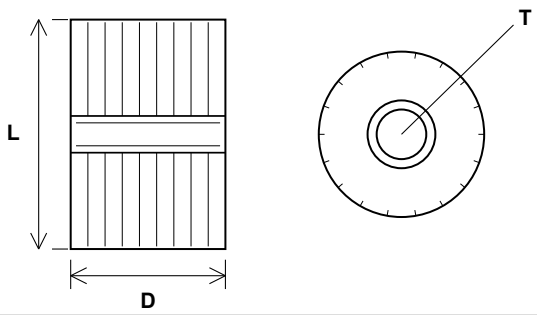
- 3D-PRINTED ELECTRONICS ENCLOSURES
- MOUNTING BRACKETS AND FIXTURES
- PROTOTYPES AND REPEATED ASSEMBLY
- THERMOPLASTIC PARTS

### DESCRIPTION

These brass inserts form a reusable metal thread in compatible thermoplastic parts. The external straight flutes and centre waist help the surrounding plastic retain the insert after heat installation.

Select the matching M2 or M3 screw and the insert length for the available material depth. Sold individually.

**MECHANICAL CONFIGURATION**




Not to scale

### NOMINAL DIMENSIONS

| Thread (T) | Designation | Length L | Outside dia. D | Unit |
|---|---|---|---|---|
| M2 | M2 x 2.0 x 3.5 | 2.0 mm | 3.5 mm | 1 insert |
| M2 | M2 x 3.0 x 3.5 | 3.0 mm | 3.5 mm | 1 insert |
| M2 | M2 x 4.0 x 3.5 | 4.0 mm | 3.5 mm | 1 insert |
| M2 | M2 x 5.0 x 3.5 | 5.0 mm | 3.5 mm | 1 insert |
| M2 | M2 x 6.0 x 3.5 | 6.0 mm | 3.5 mm | 1 insert |
| M3 | M3 x 3.0 x 4.2 | 3.0 mm | 4.2 mm | 1 insert |
| M3 | M3 x 4.0 x 4.2 | 4.0 mm | 4.2 mm | 1 insert |
| M3 | M3 x 5.0 x 4.2 | 5.0 mm | 4.2 mm | 1 insert |
| M3 | M3 x 6.0 x 4.2 | 6.0 mm | 4.2 mm | 1 insert |
| M3 | M3 x 8.0 x 4.2 | 8.0 mm | 4.2 mm | 1 insert |

Dimensions in mm. T = internal thread; L = overall length; D = external diameter.

Nominal values from the package label; tolerances and thread pitch are not verified.

# INSTALLATION AND APPLICATION INFORMATION

## INSTALLATION PROCEDURE

### 1. PREPARE

Print a trial hole in the intended material and orientation. Check fit with the selected insert and screw. Adjust the hole on a test piece before using the final part.

### 2. ALIGN

Secure the part. Place the insert square to the hole. Use a temperature-controlled heat-set tool or suitable tip and work in a ventilated area.

### 3. HEAT AND SEAT

Choose a temperature appropriate to the tool and plastic. Apply gentle, steady pressure as the plastic softens until the insert is approximately flush. Do not force or overheat it.

### 4. COOL AND INSPECT

Let the insert and plastic cool fully without movement. Start the matching screw by hand and check alignment, screw engagement and retention.

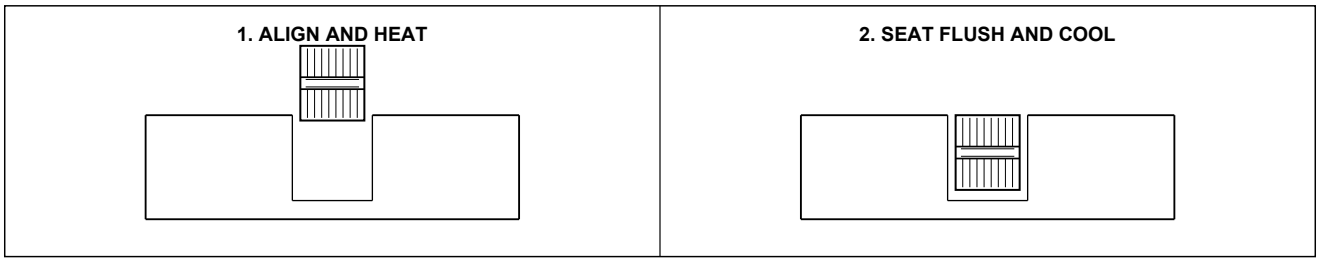
## HOLE AND ASSEMBLY DESIGN

• Pilot-hole diameter depends on the insert, material and printer. Test a range of sizes rather than using the outside diameter as the hole diameter.

• For blind holes, provide clearance below the insert so the screw cannot bottom out and force the insert from the part.

• Leave sufficient surrounding wall material and verify strength using a representative test print.

• PLA, PETG and ABS are common thermoplastic applications. Suitability varies with material, geometry and installation; thermoset resins behave differently.




## HANDLING AND LIMITATIONS

The tool and insert remain hot after installation. Avoid contact and follow the plastic and tool manufacturers' instructions. Dimensions are nominal, and the drawings are representative. No measured tolerances, alloy grade, pull-out or torque ratings are claimed.

## DESIGN REFERENCES

SPIROL: How to Design the Proper Hole for Heat / Ultrasonic Inserts

www.spirol.com/assets/files/ins-wp-how-to-design-the-proper-hole-for-heat-ultrasonic-inserts-us.pdf

SPIROL: Inserts for Plastics Design Guide

www.spirol.com/assets/files/SPIROL-Inserts-for-Plastics-us.pdf