



Providing highly engineered advanced  
material solutions for over 120 years

Superior engineering. Trusted solutions. Customized materials.

**Contact us for your  
material joining needs:**

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## About STC Material Solutions

STC Material Solutions is an innovator of intelligent joining of Dissimilar Advanced Materials delivering unique brazing and sealing solutions into the world's most extreme applications such as electrical feedthroughs and optoelectronic windows.

Starting our service in 1988, we have been involved in hundreds of new designs, material selections, evaluation and testing, prototyping and production responsibilities (short <100 to long run production >10,000)

### **MATERIALS USED:**

Alumina, sapphire, zirconia, all other oxides, nitrides (AlN, Si<sub>3</sub>N<sub>4</sub>, BN), borides, carbides, carbon and graphite products, diamond, etc.

### **TOGETHER WITH:**

SST, carbon steel, Ti, Mo, W, Nialloys, Pt, Pd, Ir, Kovar, Alloy 52, Inconel, Hastelloy, MP35N, etc.

## Our Capabilities Include:

- Ceramic to metal brazing, sealing and bonding
- Turn-key manufacturing
- Hydrogen brazing
- Vacuum brazing
- Inert gas brazing
- Non-contact dimensional analysis
- ISO Class 3 Clean room handling, processing and packaging
- Helium leak rate testing
- Thermal shock/cycle testing
- Thick film metallization (LT, MT, HT, UHT)
- Thin film metallization (PVD via sputtering and thermal evaporation)
- Electrolytic plating:
  - Nickel per AMS 2403 (AMS QQ-N-290A) and ASTM B689
  - Gold per ASTM B488-01 Type III (MIL-G-45204)
  - Copper per MIL-C-14550

