

# Specifying glass to metal seals

10 Top Tips >

**martec**<sup>®</sup>  
an Amphenol<sup>®</sup> company

Since 1987, Martec has supplied performance engineered interconnection solutions for critical, specialist applications that operate in harsh and demanding environments.

## 10 Top Tips for specifying glass to metal seals

Martec offers both off-the-shelf and custom solutions for glass to metal seals and electrical feedthroughs. Our comprehensive manufacturing capabilities allow us to work with a wide range of materials and to finish all products on site using advanced sealing techniques and/or plating.



[www.martec.solutions](http://www.martec.solutions)

- 1 How many conductors?**  
Consider including a number of redundant conductors to accommodate any system developments you have planned for the future, or to comply with specified growth provisions.
- 2 What are the electrical requirements?**  
Work out a steady state and peak requirement for both the current and voltage.
- 3 Will your GTMS be under any pressure?**  
Depending on the medium (for example, oil, water or a vacuum) there may be a pressure differential to consider. GTMS can be supplied in multi-pin preforms or, for high pressure applications (up to 60,000 psi / 400 MPa), in individual glass beads.
- 4 How will your GTMS be attached?**  
Will it be secured with a standard O ring, for example, or welded in place? Or will you need a custom-designed mounting arrangement for optimum system integration?
- 5 What are your cable interface requirements?**  
Be sure to include any instructions for screen termination, potting requirements and/or cable strain relief.
- 6 Do you require custom functionality?**  
If you have any specific requirements, such as electromagnetic compatibility (EMC) filters or printed circuit board (PCB) mounting, make sure they are included in your design specification.
- 7 What are your plating requirements?**  
We offer a wide range of in-house plating options, including tin, nickel, hard and soft gold. We can also customise the plating to meet any special or unique requirements. Note that gold plated solder contacts should either be desoldered before installation, or appropriate plating thickness specified, to avoid solder embrittlement.
- 8 Are there any environmental factors?**  
If your application will be operating in a harsh or hostile environment (exposed to shock, vibration, thermal changes or extreme temperatures, for example) these will need to be factored into the design.
- 9 What are the qualification requirements?**  
If qualification tests are required, these should be discussed and specified during the design phase. Martec is able to perform most qualification tests on the appropriate levels of assembly.
- 10 What testing will you need?**  
Examples include leak testing, pressure test, geometrical and electrical testing; including breakdown, voltage and insulation resistance of finished parts.



### Cabling and wiring too?

If you would like to extend your brief to include your cabling and wiring requirements, Martec can address these requirements too. You'll find more information on the specific design considerations in our 10 Top Tips for Specifying cabling and wiring.

#### Martec Limited

St Augustine's Business Park,  
Swalecliffe, Whitstable,  
Kent CT5 2QJ, UK

Tel: +44 (0)1227 793 733  
Fax: +44 (0)1227 793 735  
Email: [sales@martec.ltd.uk](mailto:sales@martec.ltd.uk)  
[www.martec.solutions](http://www.martec.solutions)

**martec**<sup>®</sup>  
an Amphenol<sup>®</sup> company