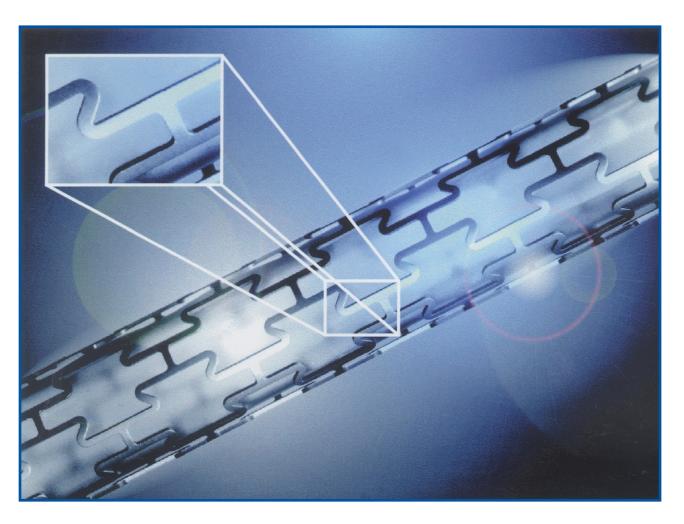
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## **STENT TUBING**





## ENGINEERED TO MEET THE UNIQUE STENT CHALLENGES

Stent designers indeed face difficult challenges. At Minitubes, we have succeeded in understanding them in depth, in order to offer a tubing quality that meets the highest demands :

- A choice of alloys for both balloon inflatable and self expandable designs.
- Extreme selectivity in the raw materials : biocompatibility, mechanical properties, overall stent performance are material dependant.
- Seamless tube only : as experts also in welded-redrawn tubing, we consider it too risky for a stent application, and we will not take a chance !
- New limits in dimensional accuracy, very smooth ID and OD to optimize the subsequent laser cutting and polishing operations.
- Full certification for each lot.



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## Stainless steel

- Exceeds the ASTM F138 and ISO 5832-1 requirements.
- Exceptionally clean material, to limit the threat of inclusions.
- Melt to melt consistancy, insured by a restricted range of chemical composition.
- Seamless tube safety together with tight wall consistancy ( $\pm$  .0002",  $\pm$  5 µm).
- OD finish down to RMS 4 (Ra 0.1  $\mu$ m) and to RMS 8 (Ra 0.2  $\mu$ m) on ID.
- Stock items available for rapid prototyping.

## Ni-Ti Alloys

- Wide choice of alloys, covering superelastic and martensitic materials.
- Available from the smallest sizes up to .40" (10 mm) OD.
- Thin wall tubing at the expanded stent dimension increase design possibilities and offers manufacturing advantages for self-expandable stents.
- Tight tolerances, in particular on the wall, for precise laser cutting and uniform stent properties.
- Smooth finish on both OD and ID.
- Stock items available for rapid prototyping.

And many other material possibilities :

- Tantalum, combines good biocompatibility with high radio-opacity.
- Phynox, : a cobalt base alloy, stronger than stainless steel, permits lower profiles and increased radial strength.
- Platinum alloys, excellent biocompatibility and high radio-opacity.
- And also : titanium, MP35N, Niobium, high strength stainless, etc.



