

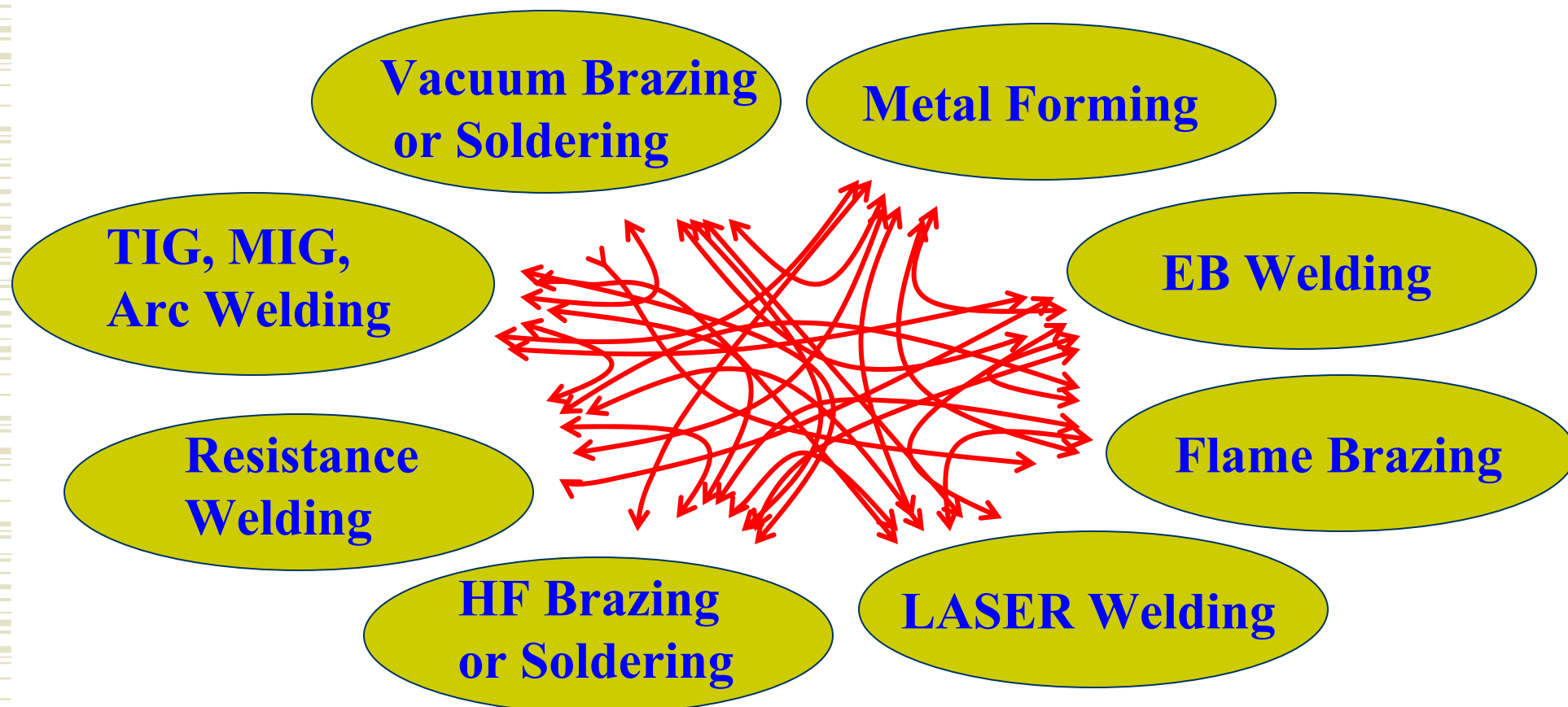
Techniques de Formage et d'Assemblage



- Introduction
- Moyens Techniques
- Exemples de Réalisations
- Conclusions

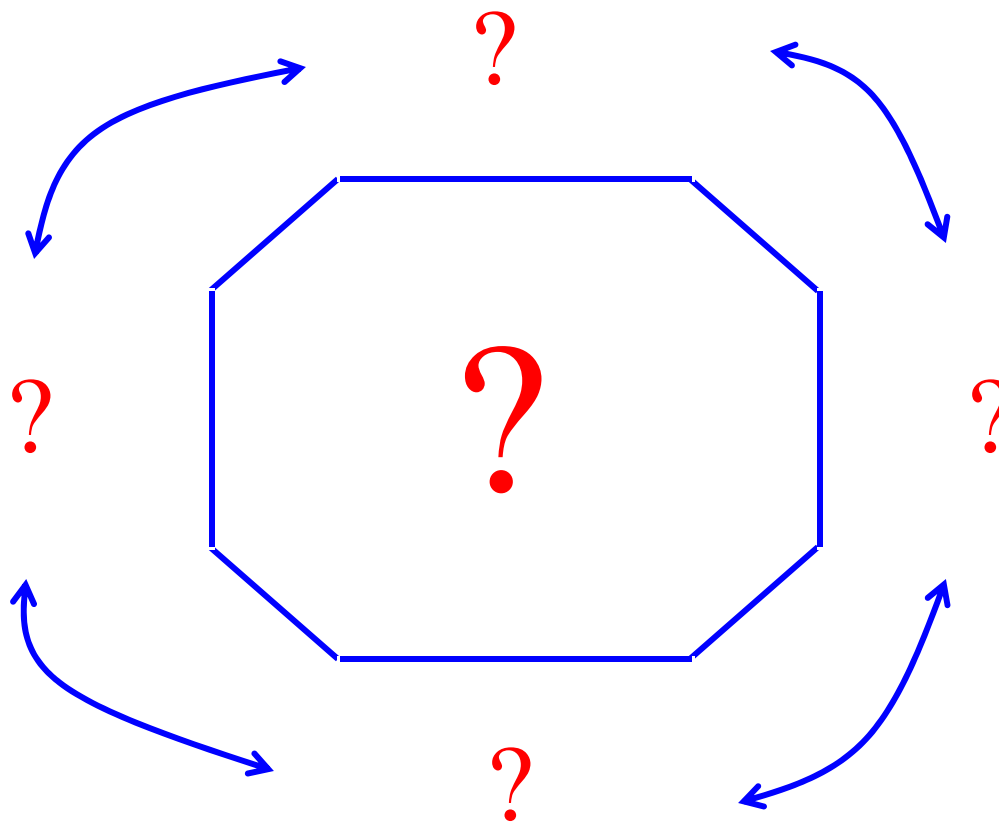
Introduction

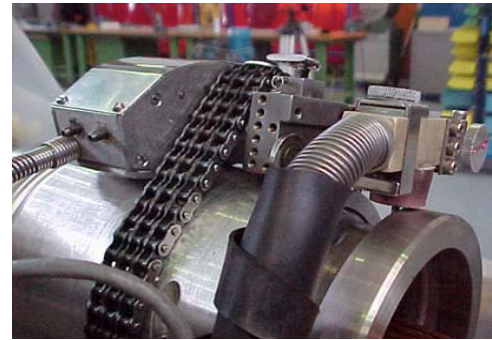
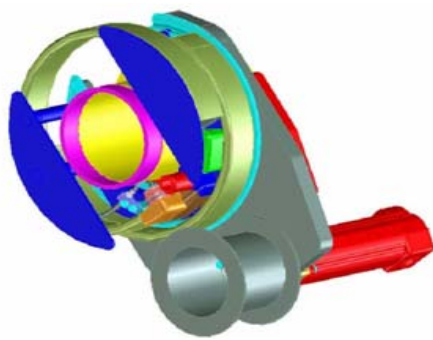
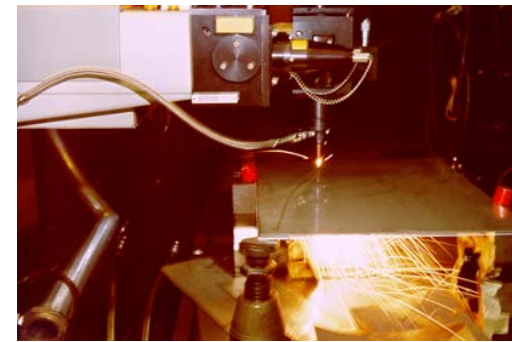
Les Moyens au CERN



Introduction

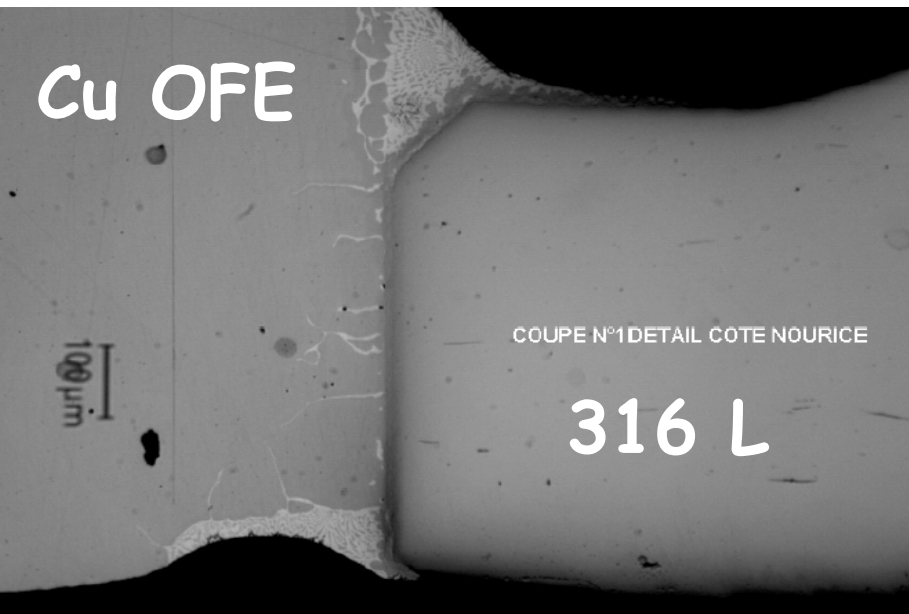
La Section Assemblage





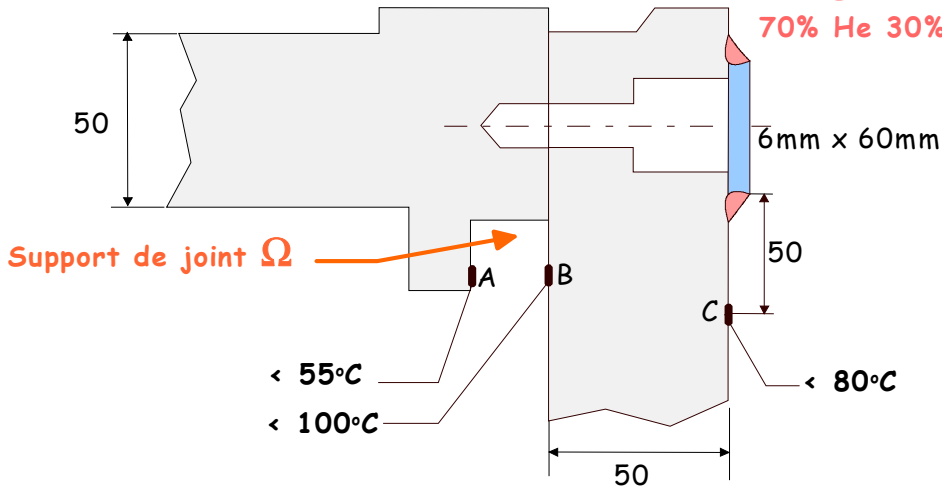


Transition cuivre OFE / 316 L

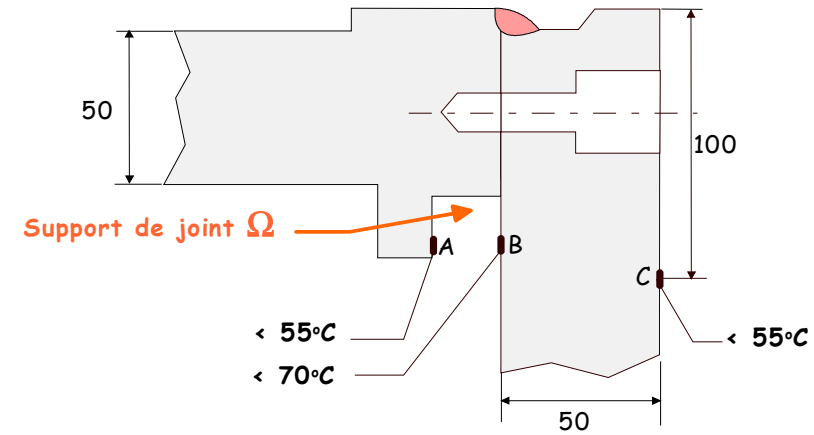


Soudures étanchéité barrel

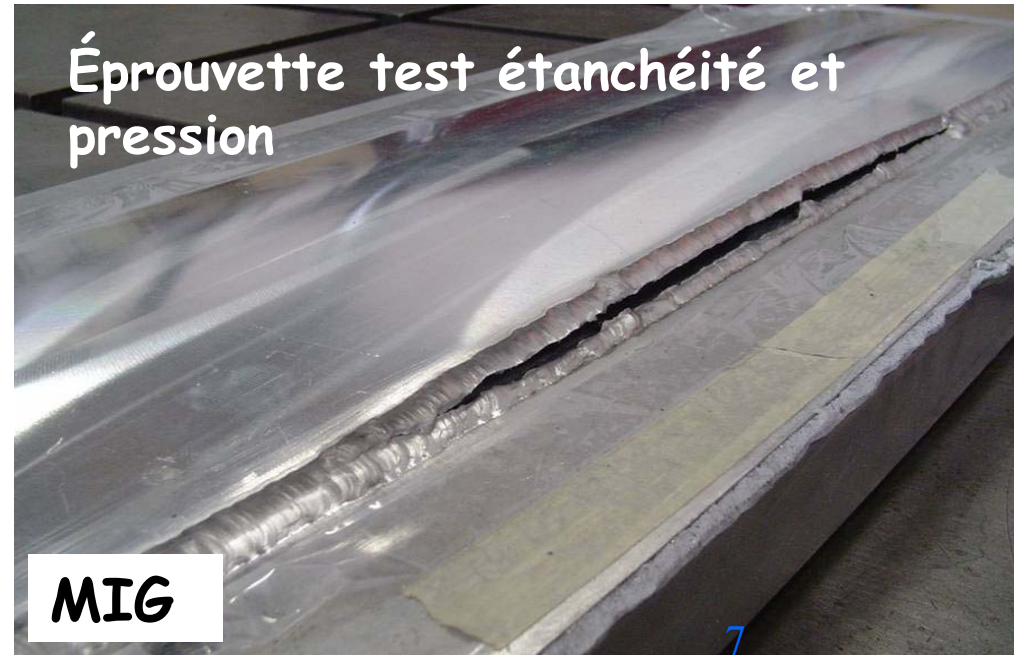
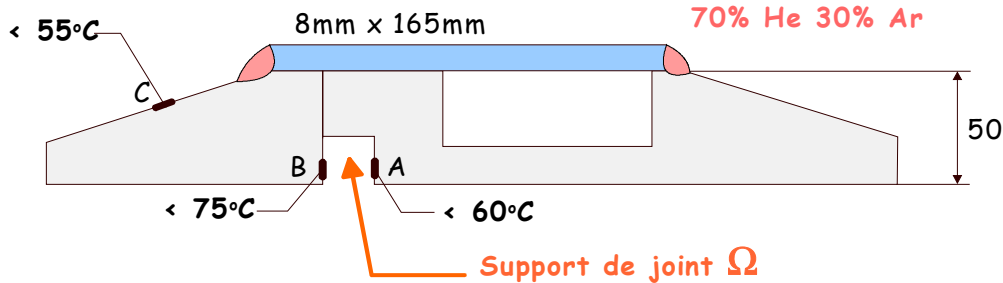
TIG
70% He 30% Ar



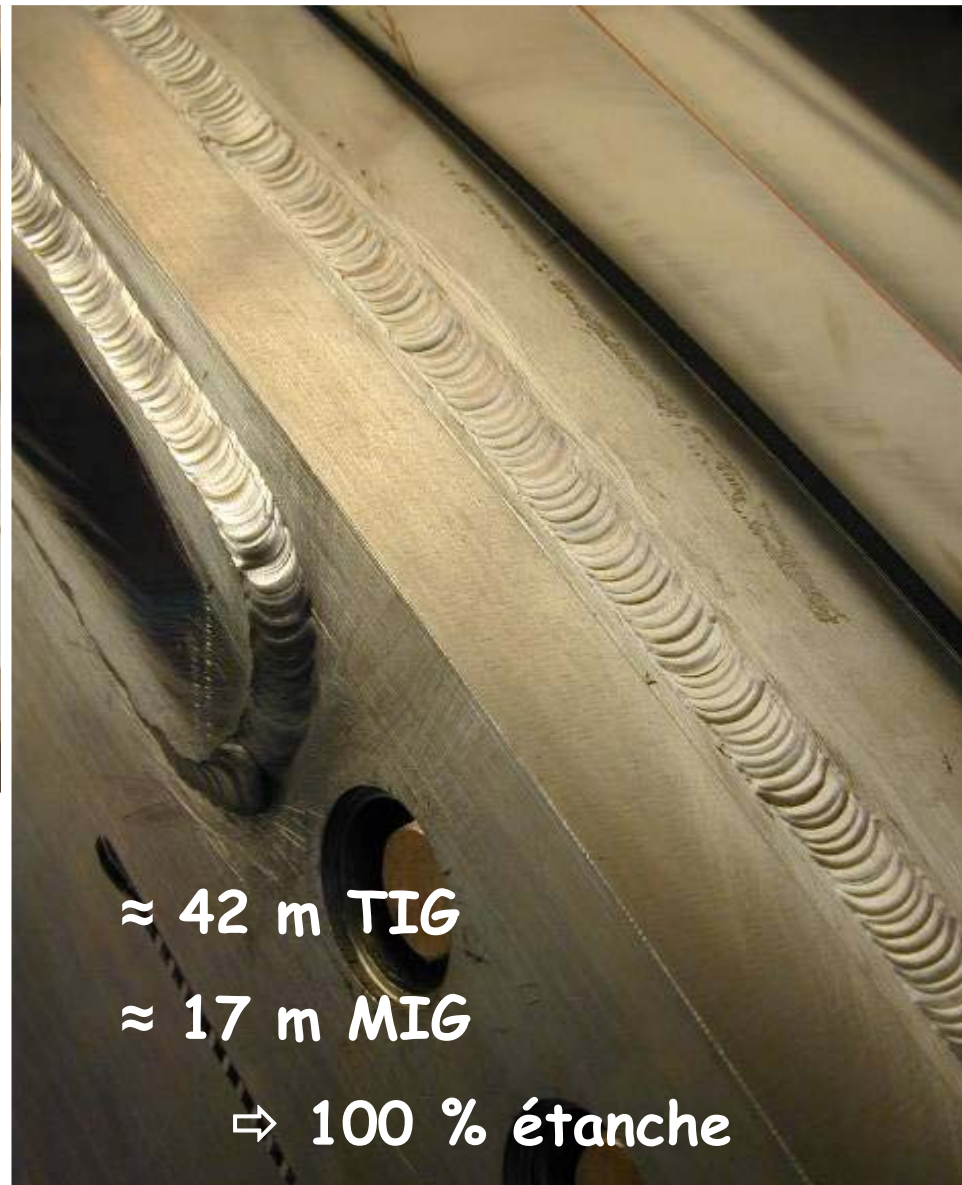
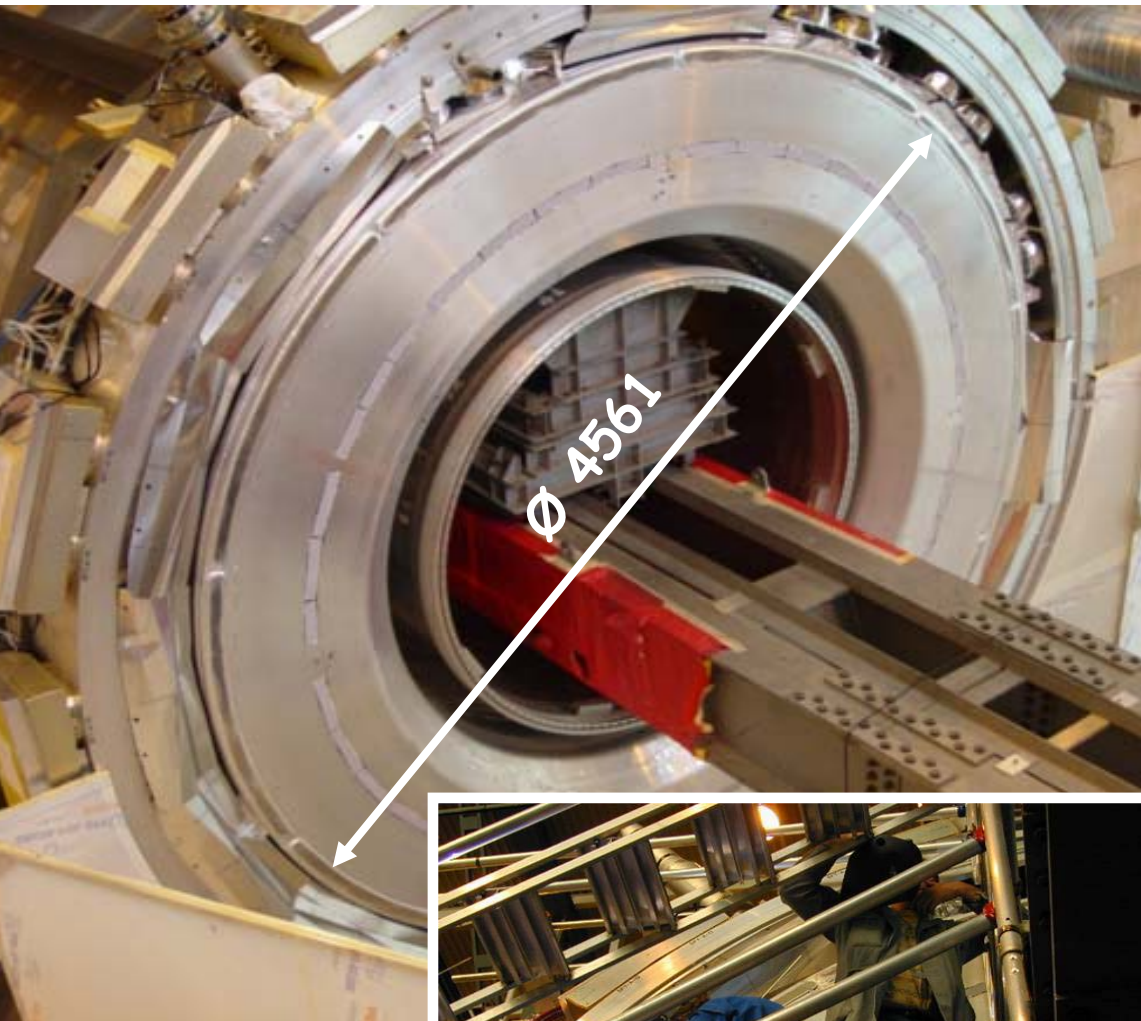
TIG
70% He 30% Ar



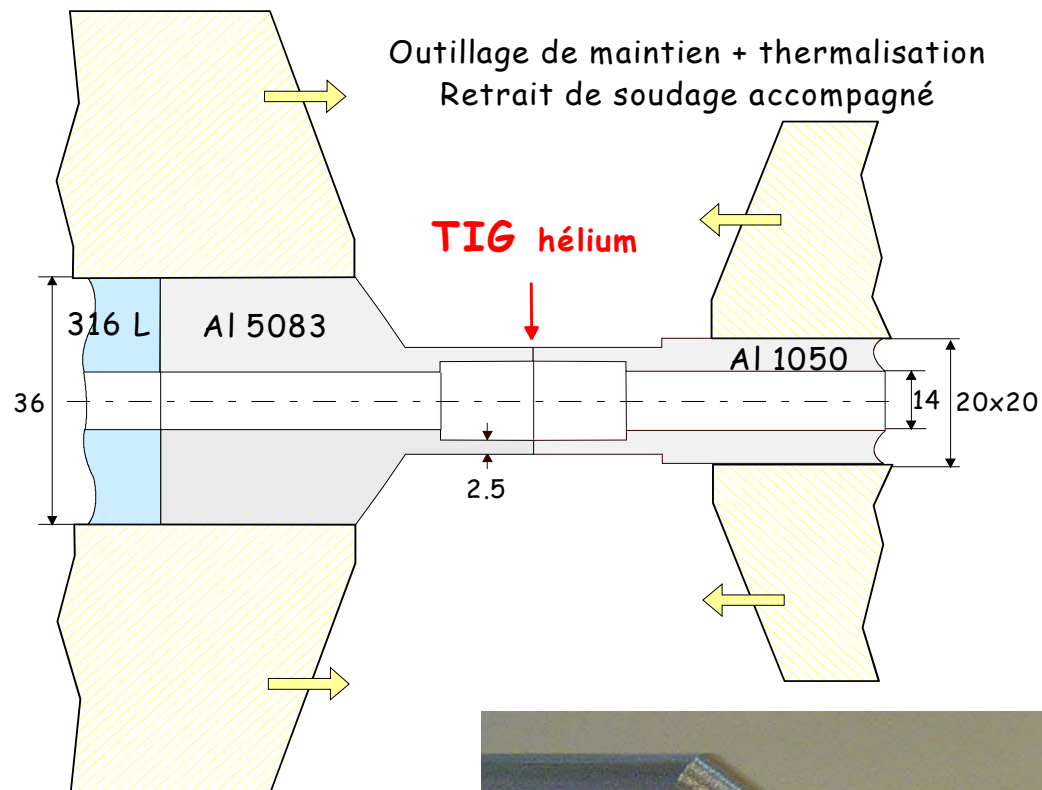
MIG
70% He 30% Ar



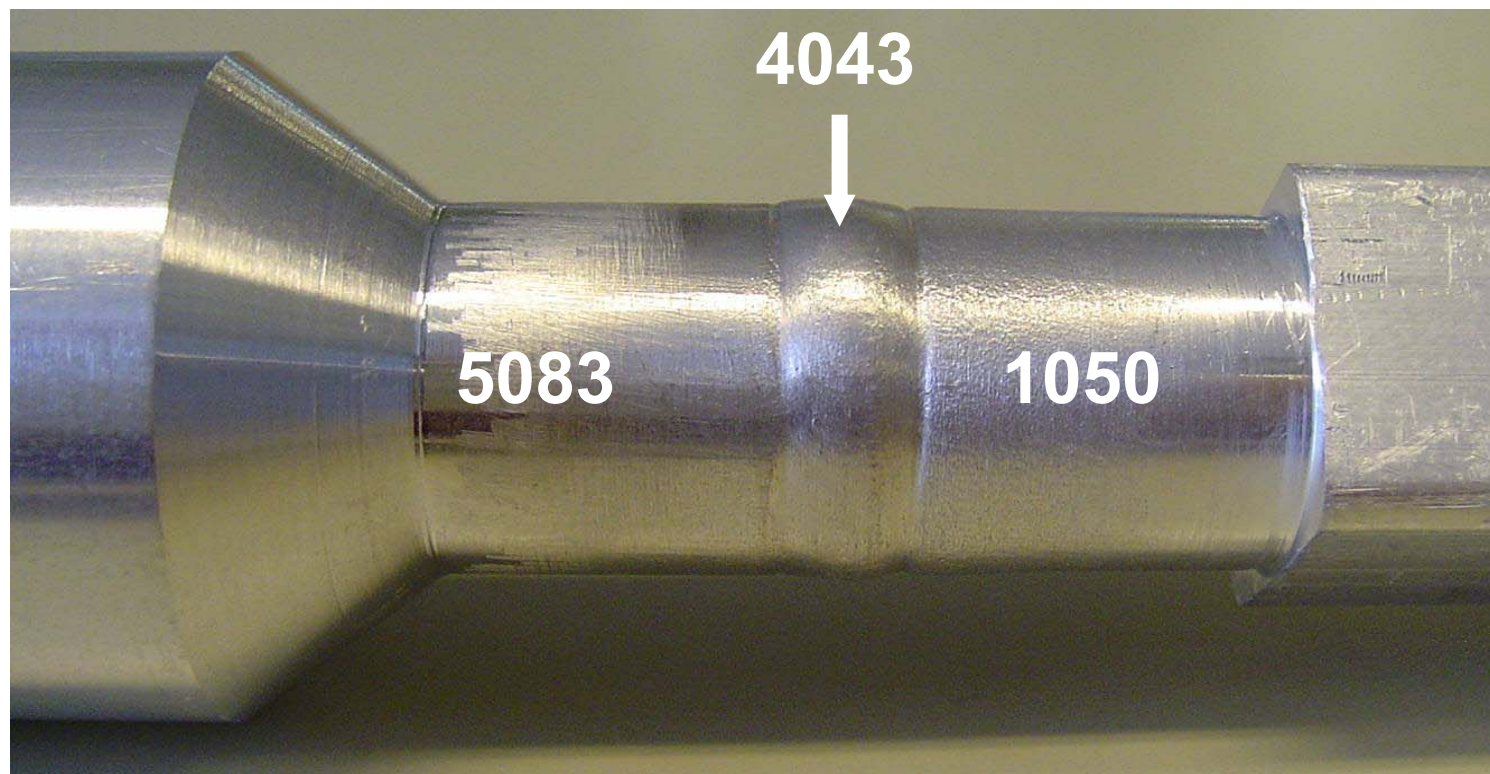
Soudures étanchéité barrel ATLAS



≈ 42 m TIG
≈ 17 m MIG
⇒ 100 % étanche

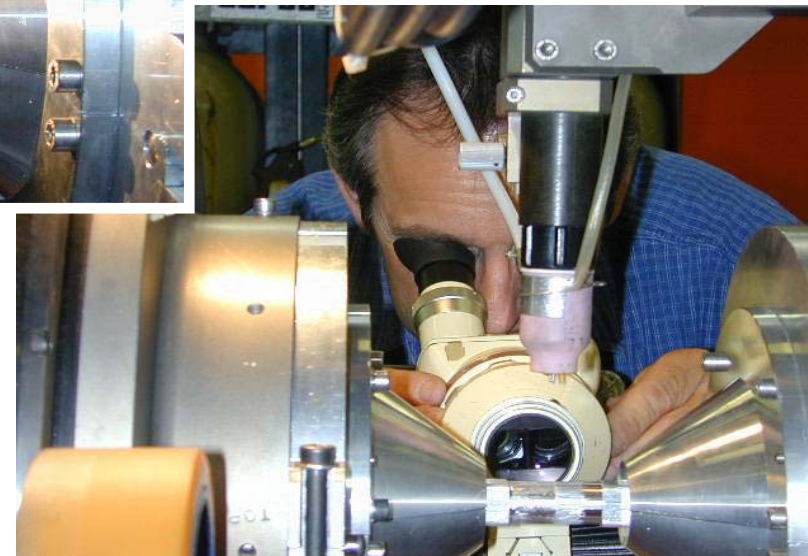
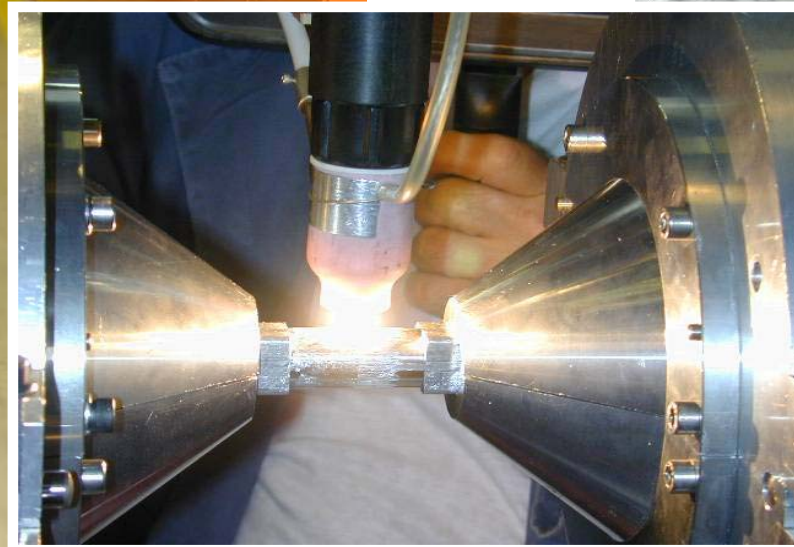
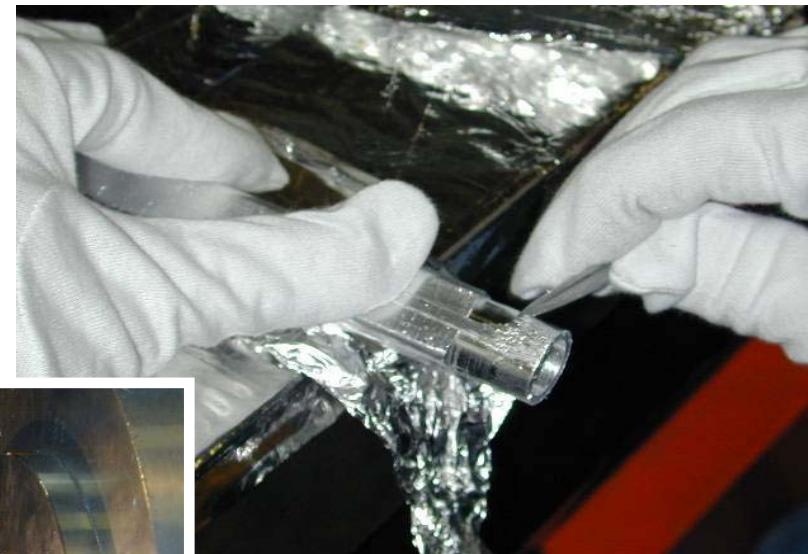


Lignes aluminium toroïdes ATLAS

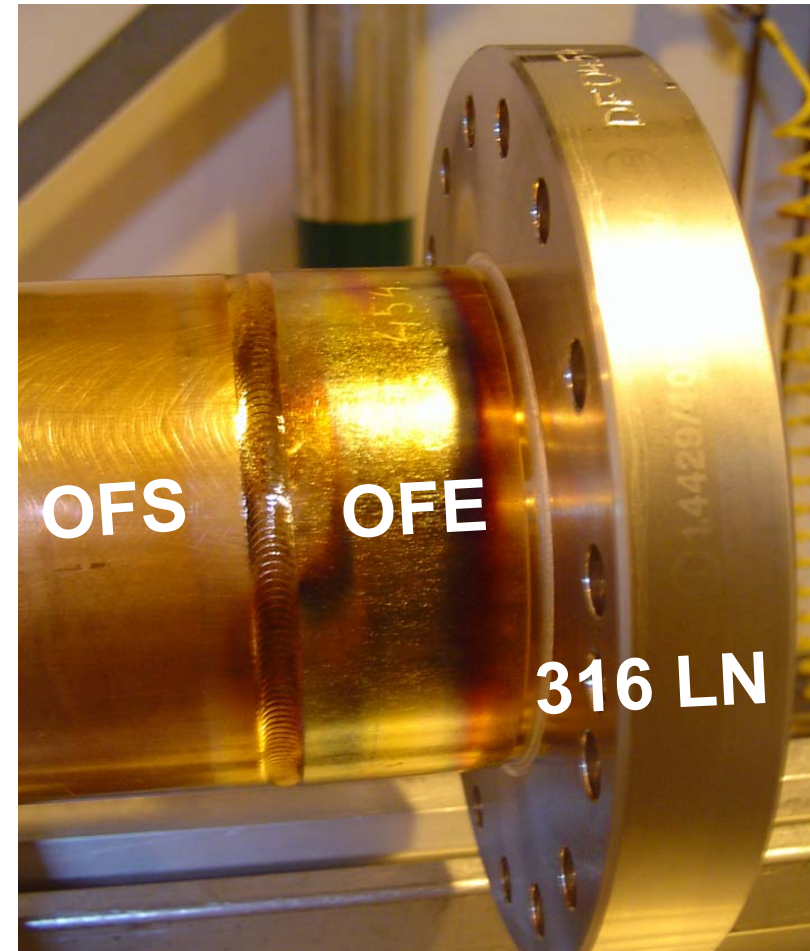
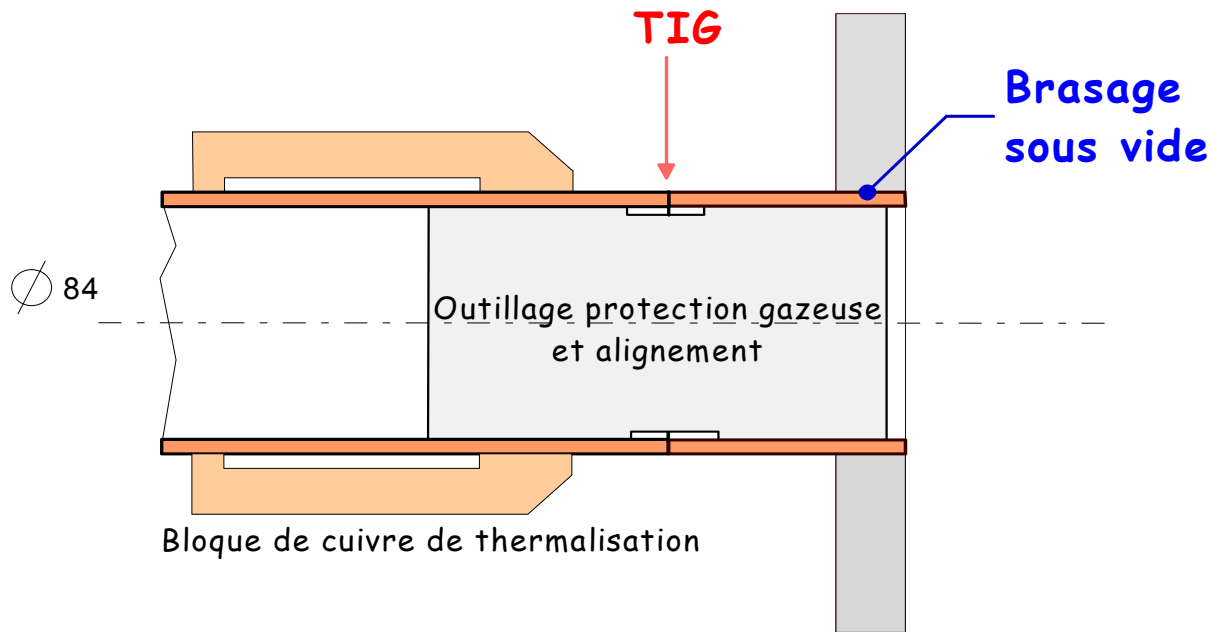




Lignes aluminium toroïdes ATLAS



Chambres LSS standard

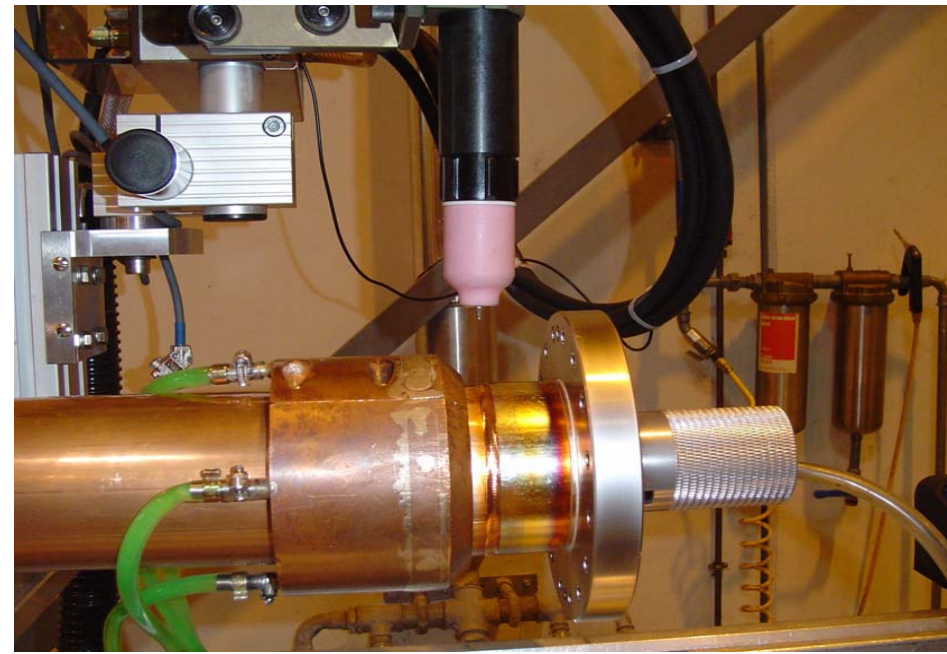
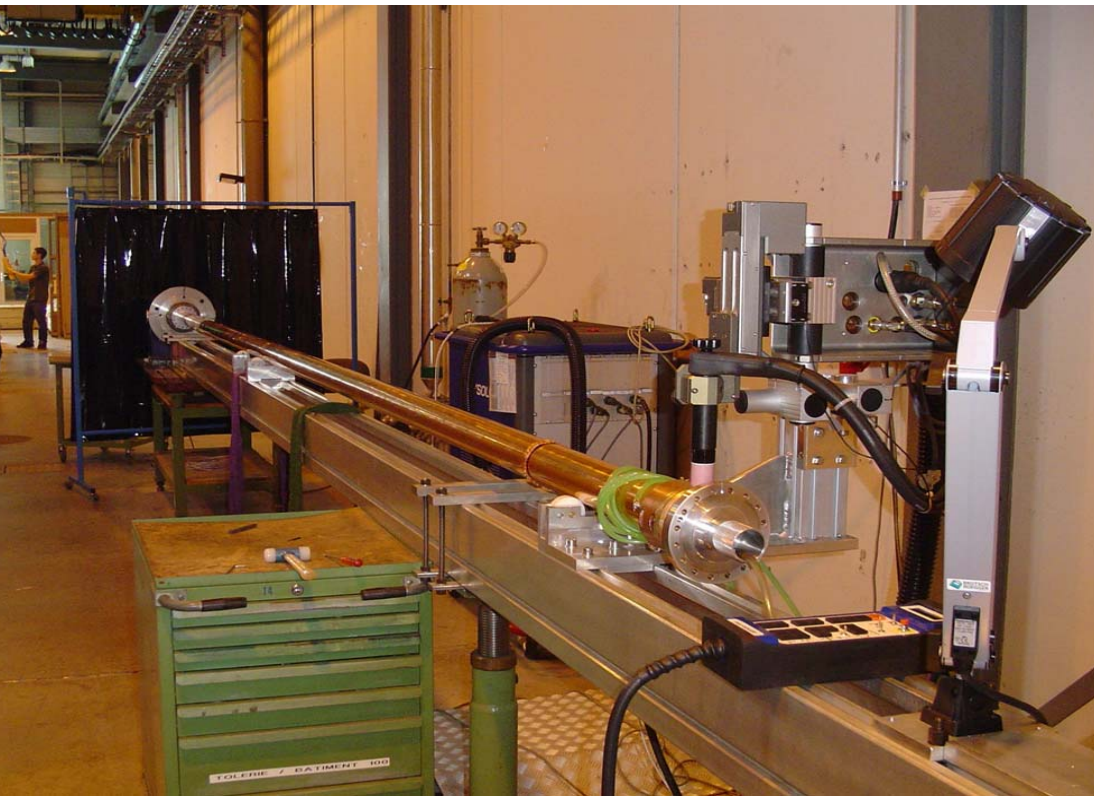


Programme de soudage multisecteurs + thermalisation

⇒ **Maîtrise du cycle thermique**

⇒ **Maîtrise de la géométrie cordon**

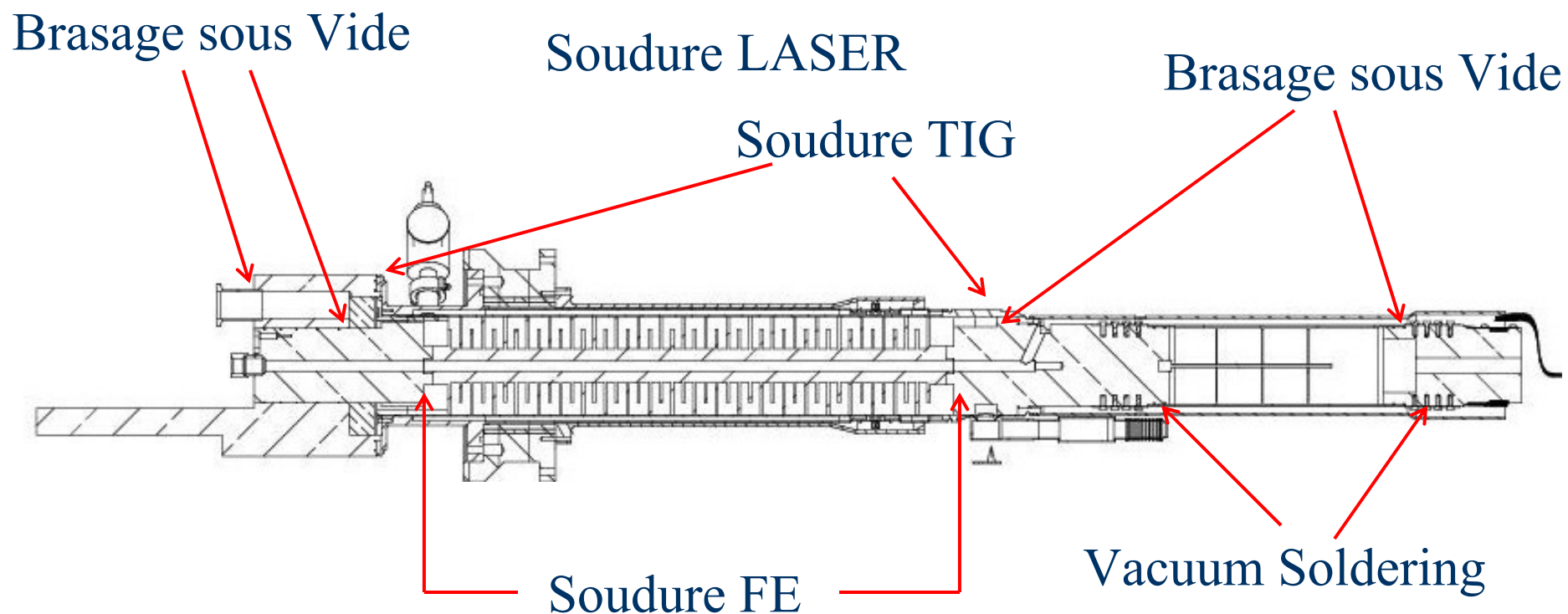
⇒ **Maîtrise des déformations**



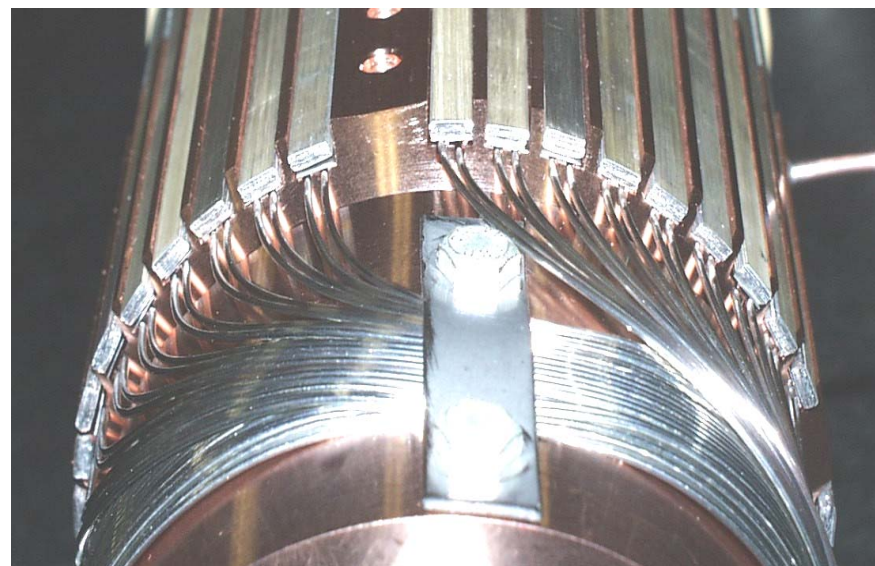
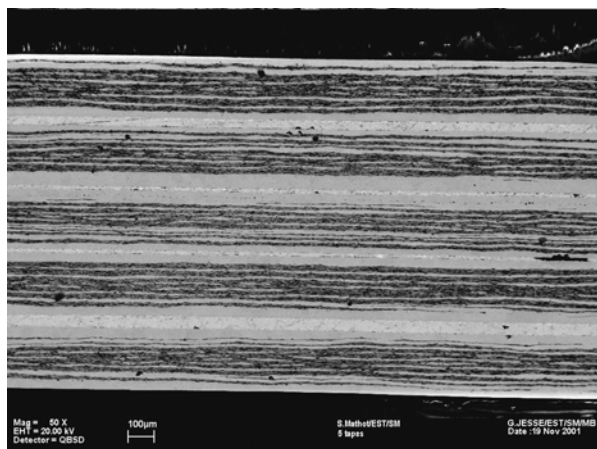
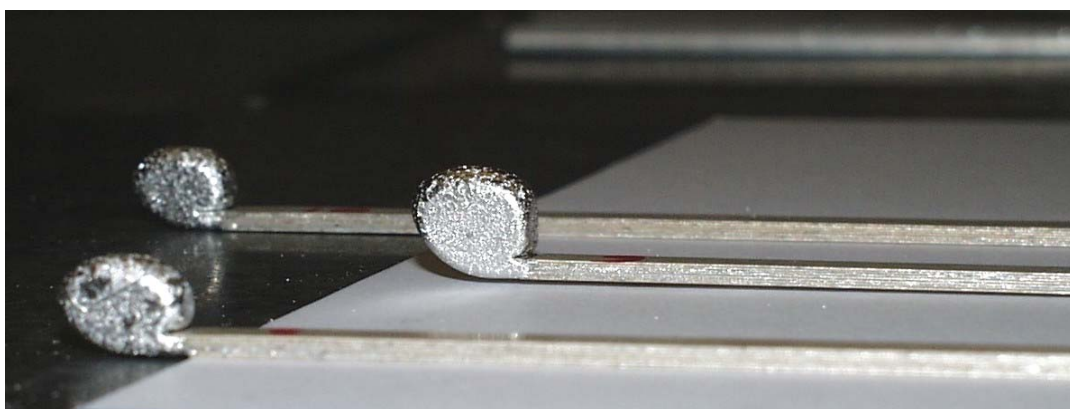
**Chambres
SS standard**



Exemple de Réalisation Amenées de Courant HTS



Exemple de Réalisation HTS Vacuum Soldering



Exemple de Réalisation Brasages pour PET-HPD

Saphir Φ 114 mm

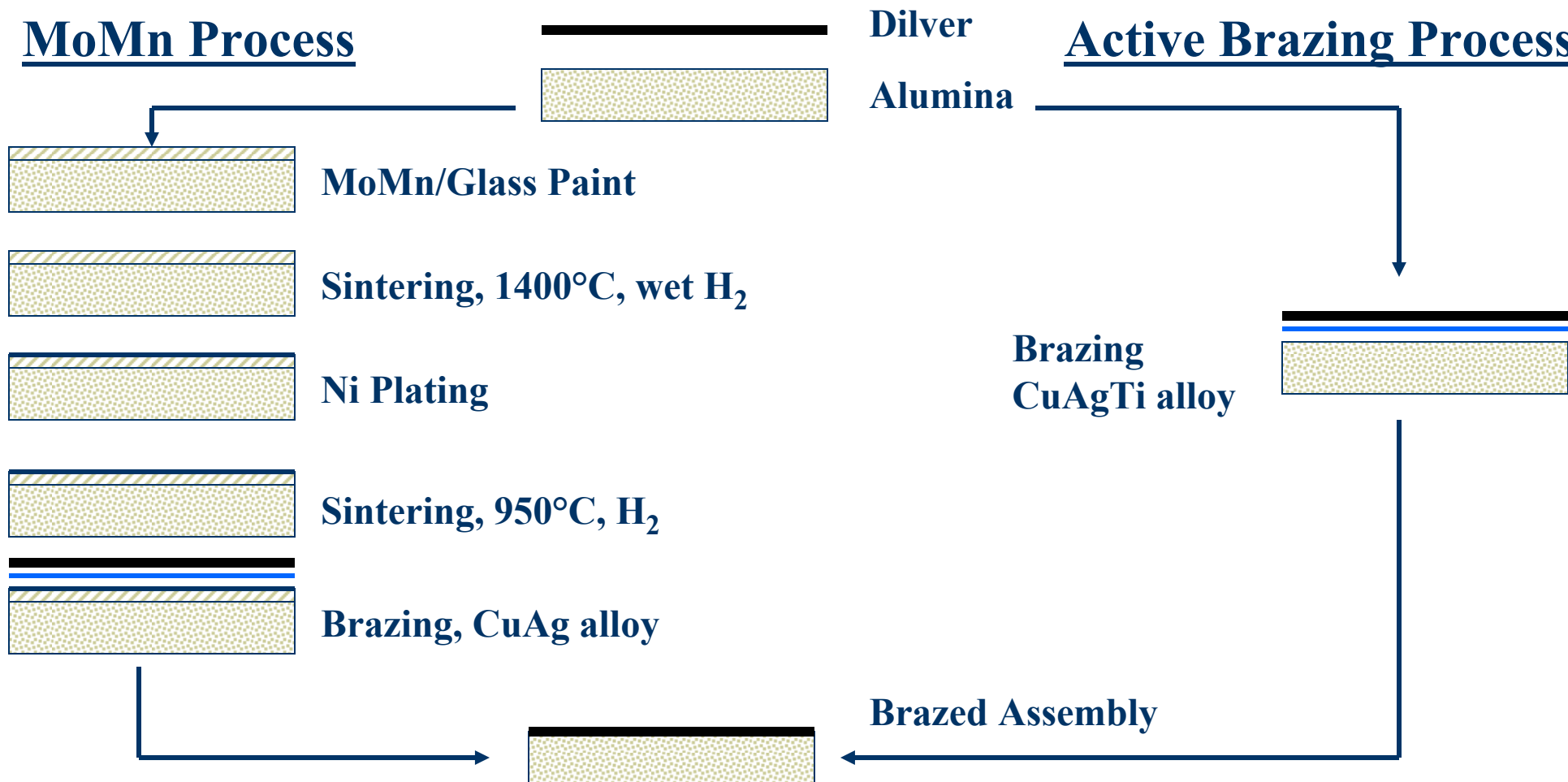
Niobium

Alumine

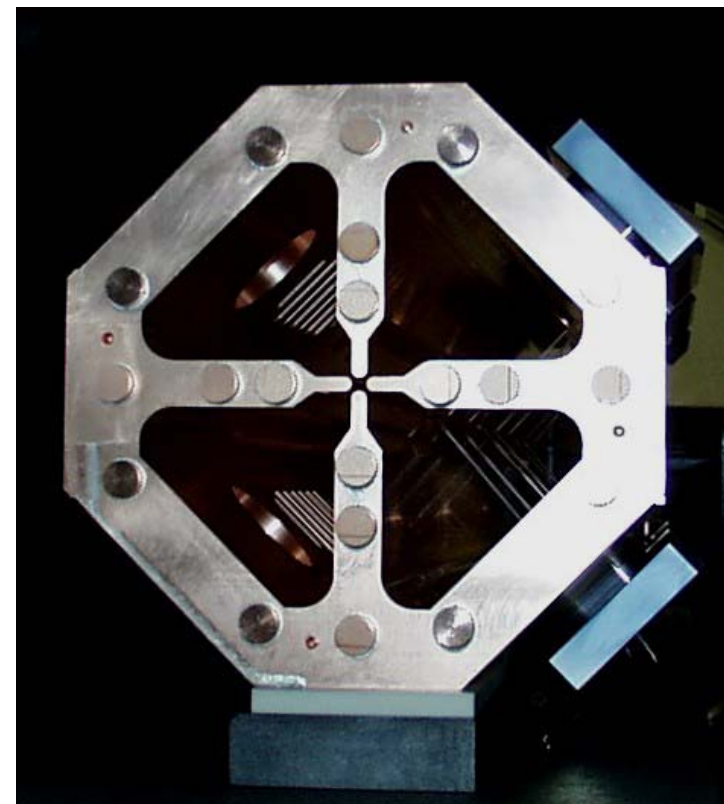
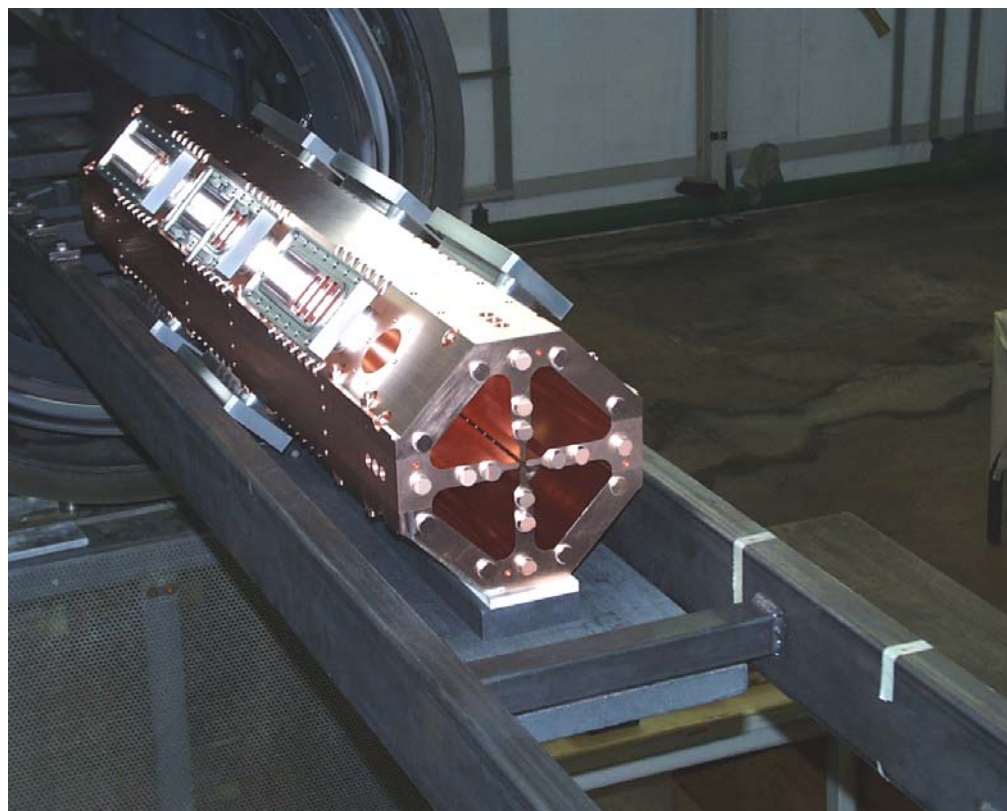
Dilver P1



Exemple de Réalisation Brasage Céramique / Métal



Exemple de Réalisation Brasage RFQ



Premier Brasage : Four Horizontal

Exemple de Réalisation Brasage RFQ

Second Brasage Four Vertical



Conclusions

- ◆ Techniques d'assemblage :
 - Diversité et complémentarité des moyens

- ◆ Outil performant pour le CERN
 - Concerver et renforcer cet outil

- ◆ Gestion des travaux
 - Choix de la méthode, qualité du résultat