Boston Scientific

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Joining Platform GA

17th June 15

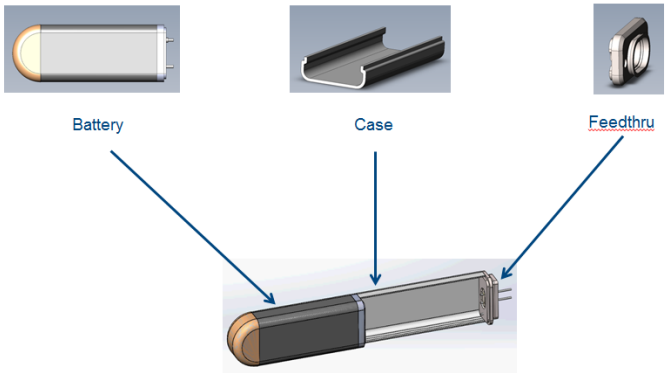
Priority topic: Low distortion and low heat input Joining.

Challenges:

1. Laser welding of active implantable medical devices (e.g. Pacemakers, ICDs etc.) which have heat sensitive components in very close proximity to the weld joint.
2. Laser welding of thin walled Titanium subassembly components with a minimal amount of distortion such that down stream process steps are not be impacted by part fit-up issues.

Process Information	
Weld Method	**Pulsed Laser Weld**
Case Material	**Grade 1 Titanium**
Case Thickness	**0.25 mm**
Feedthru Flange Material	**Grade 2 Titanium**
Feedthru Flange Thickness	**0.33 mm**
Weld environment	**Glove box**



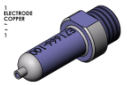


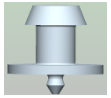
Priority topic: High productivity, high performance associated with Resistance Welding…

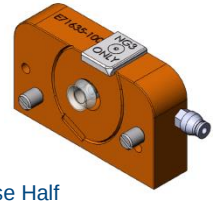
Challenges:

1. Resistance welding of active implantable medical devices (e.g. Pacemakers, ICDs etc.) is a process step that is typically monitored using HVI and destructive process monitors (after the event).
2. Current materials associated with resistance welding electrodes result in frequent replacement (causing setup and interruption to a production line).
3. Develop closed loop process control that eliminates routine schedule driven events.

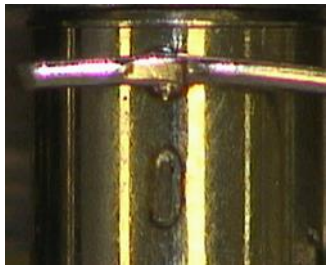
Process Information	
Weld Method	**Resistance Weld**
Case Material	**Grade 1 Titanium**
Case Thickness	**0.25 mm**
Anchor Post to Case **Connector Block to wire**	**Grade 2 to Grade 1 Titanium** **Stainless & MP35N to Pd/Ir**
Electrode Material **Nest Material**	**RWMA 2 (C182)** **RWMA 2 (C182)**
Weld environment	**Open air / Not a controlled environment**
Process Monitoring	**Destructive Process Monitors & 100% Human Visual Inspections**

electrode 

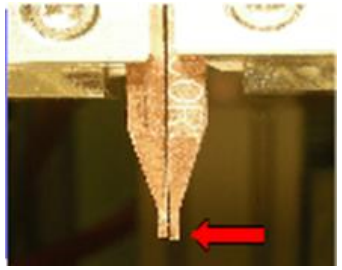
Anchor Post 

Case Nest 

Welded Case Half 



Welded Connector Block/ Wire Assembly



Parallel Gap Electrode Setup