



SDT Electron Beam Welders

BCI Strategy

Why We Needed to do this

- Excessive subcontract lead times
- BCI was not subcontractors 1st priority
- Very little development support
- Site visits revealed that their equipment was not suited for small parts our product used as capacity filler only
- Their equipment was only barely accurate enough to meet our requirements and was pushed to the limit to maintain tolerances

BCI Strategy

- Outsource our specific equipment & processing requirements to an industry leading supplier of EB Weld Technology
- Contract for full process development & prove out for each EB welded assembly at BCI
- Extensive training for BCI personnel at the manufactures facility and onsite at BCI.
- Inhouse process development for any new EB welded assemblies

2 Electron Beam Engineering EB Welders with a 12 inch cube vacuum chamber.

BCI's EB Weld Equipment



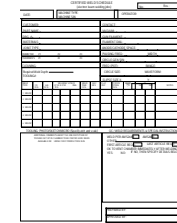
State of the art CNC Electron Beam Welder
 Model 512 Beamster
 Chamber 12x12x12
 Weld Penetration in steel .025 mm to 18.0 mm
 Weld times from 0.1sec to 999sec.
 Speed 760 mm per minute

BCI's EB Weld Equipment



Fully Computerized program and process control including data log for 100% traceability to each welded component. No manual inputs for parameters required after process qualification.

Process Control



- Frozen documented weld schedules for each assembly
- Inspection verification of parameters at 1st off inspection
- Section, polish, etch, and microscopic analysis at 1st off inspection
- Computerized log of all actual parameters for each individual welded assembly provides 100 % traceability.

BCI's EB Weld Equipment

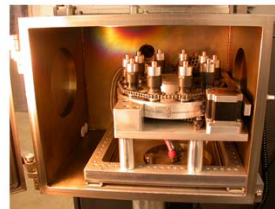


Laser Tack Welder



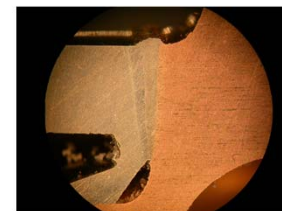
Digital microscope for full microscopic analysis of weld joint

BCI's EB Weld Equipment



100% part specific dedicated tooling to essentially eliminate manual adjustment of Electron beam and operator variation

Process Control



•Sectioned, polished, etched, microscopic analysis at 1st off inspection