



POSITION PAPER

Prepared by WG-3

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SUMITOMO PRECISION PRODUCTS FABRICATED BRAZED ALUMINIUM HEAT EXCHANGERS

1 Introduction

Sumitomo Precision Products Co. Ltd. (SPP) has supplied brazed aluminium heat exchangers (BAHXs) to cryogenic plant designers, builders, and operators for many years, for use in industrial gas plants. BAHXs are integral to the operation of these plants. EIGA has recently become aware that header assemblies for some of these heat exchangers had been fabricated using welders, weld procedures or inspectors that were not certified to relevant regional standards or directives. This work included header subassemblies welds, core to header welds, and nozzle to header welds.

2 Assessment

To understand the number of heat exchangers affected, a number of industrial gas plant operators, including many EIGA members, undertook an inventory, in conjunction with the Compressed Gas Association (CGA) [1], of SPP supplied heat exchangers that are in use globally and gathered their operating history. This inventory is complete, with more than 4000 SPP supplied heat exchangers identified. These heat exchangers range in age from newly installed to heat exchangers with over 30 years in operation. Taken together, the identified heat exchangers represent over 66 000 years (580 million hours) of operation. For all the heat exchangers inventoried, only one incident was identified related to the welding of the header assembly. This heat exchanger, manufactured in 2015, experienced a weld crack, which was identified shortly after being put into operation in 2017 in the USA. The crack allowed process gas to leak, however there was no injury to either plant employees or the public. There is no indication that this weld crack resulted from SPP's reported nonconformances.

3 Conclusion

Based on the evaluation of its members' operating experience, EIGA believes that the SPP supplied brazed aluminium heat exchangers are reliable and safe. SPP's reported nonconformance does not affect the mechanical integrity of these heat exchangers and no new actions are needed for continued safe operation.

[1] CGA Position Statement PS-65-2020

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