ISO 25239-4:2020 (E)

Friction stir welding — Aluminium — Part 4: Specification and qualification of welding procedures

Contents

Foreword

Introduction

1 Scope

2 Normative references

3 Terms and definitions

4 Development and qualification of welding procedures

4.1 General
4.2 Technical content of a pWPS

5 Qualification based on a welding procedure test

5.1 General
5.2 Test pieces
5.2.1 Shape and dimensions of test pieces
5.2.1.1 General
5.2.1.2 Butt joint in tube
5.2.1.3 Lap joint
5.2.2 Welding of test pieces
5.3 Examination and testing of test pieces
5.3.1 Extent of testing
5.3.2 Visual testing and acceptance levels
5.3.3 Destructive tests
5.3.3.1 General
5.3.3.2 Location and extraction of test specimens
5.3.3.3 Transverse tensile test and acceptance levels
5.3.3.4 Bend test and acceptance levels
5.3.3.5 Macroscopic examination and acceptance levels
5.3.4 Re-testing
5.4 Range of qualification
5.4.1 General
5.4.2 Related to the fabricator
5.4.3 Other variables
5.5 Welding procedure qualification record

6 Qualification based on pre-production welding test

6.1 General
6.2 Test pieces
6.3 Examination and testing of test pieces
6.4 Range of qualification
6.5 Welding procedure qualification record

Annex A (informative) Example of a form for preliminary welding procedure specification (pWPS) and welding procedure specification (WPS)

Annex B (informative) Non-destructive testing

Annex C (informative) Hammer S-bend test of lap welds

Annex D (informative) Example welding procedure qualification record form (WPQR)

Page count: 23