ISO 16432:2006-02 (E)

Resistance welding - Procedure for projection welding of uncoated and coated low carbon steels using embossed projection(s)

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Terms and definitions 2

4 Symbols 2

5 Materials 2
5.1 Form 2
5.2 Steel grades 3
5.3 Surface conditions 3

6 Component design and manufacture 3
6.1 Component design 3
6.1.1 General 3
6.1.2 Placement of projections 3
6.2 Projection dimensions 4
6.2.1 General 4
6.2.2 Dissimilar sheet thickness 4
6.2.3 Multi-weld arrays 5
6.3 Ancillary manufacturing considerations 5

7 Welding equipment 5
7.1 Welding machine 5
7.2 Electrode assembly (tooling) 5
7.3 Design of electrode assembly 5
7.3.1 Contact face 5
7.3.2 Electrode inserts 5
7.3.3 Electrode cooling 6
7.3.4 Location of components (tooling) 6
7.3.5 Tooling design considerations 6

8 Weld assessment -- Type tests 6
8.1 General 6
8.2 Test requirements 7
8.2.1 Weld diameter 7
8.2.2 Weld fracture mode 7
8.2.3 Weld strength 7
8.2.4 Visual and metallographic examination 8
8.3 Weld appearance -- Surface condition 8
8.4 Distortion 8

9 Weld assessment -- Routine tests 8
9.1 General 8
9.2 Frequency of testing 9

10 Repair of non-conforming assemblies 9

Annex A (informative) Recommendations for projection welding equipment 10

Annex B (informative) Relationship between sheet thickness and projection diameter (derived from ISO 8167) 11

Annex C (informative) Typical projection welding conditions 12

Annex D (informative) Partial list of steel types applicable to the standard 14

Bibliography 15