

DIN EN ISO 18278-2:2016-09 (E)

Resistance welding - Weldability - Part 2: Evaluation procedures for weldability in spot welding (ISO 18278-2:2016)

| Contents | | Page |
|-------------------------|--|-------------|
| European foreword | | 4 |
| Foreword | | 5 |
| Introduction | | 6 |
| 1 | Scope | 7 |
| 2 | Normative references | 7 |
| 3 | Terms and definitions | 7 |
| 4 | Welding equipment | 8 |
| 4.1 | General | 8 |
| 4.2 | Electrodes | 8 |
| 4.3 | Welding current | 8 |
| 4.4 | Mechanical settings | 8 |
| 4.5 | Measurement of parameters | 8 |
| 4.5.1 | Welding current and electrode force | 8 |
| 4.5.2 | Electrode cooling water flow rate | 8 |
| 4.6 | Measurement of results | 9 |
| 4.6.1 | Weld diameter | 9 |
| 4.6.2 | Detection of expulsion | 9 |
| 5 | Preliminary adjustments | 9 |
| 5.1 | Electrode alignment | 9 |
| 5.2 | Electrode conditioning | 9 |
| 6 | Determination of the welding current range | 9 |
| 6.1 | Test specimens | 9 |
| 6.2 | Welding parameters | 9 |
| 6.3 | Test procedure | 10 |
| 6.4 | Current range criteria | 10 |
| 6.5 | Three sheet and multiple stack-ups | 10 |
| 7 | Estimation of electrode life | 11 |
| 7.1 | Test specimens | 11 |
| 7.2 | Welding parameters | 11 |
| 7.3 | Procedure | 11 |
| 7.4 | Test criteria, interpretation of results | 12 |
| 8 | Test report | 12 |
| 8.1 | General | 12 |
| 8.2 | Welding current range | 12 |
| 8.3 | Electrode life | 13 |

| | |
|---|-----------|
| Annex A (informative) Electrode alignment..... | 14 |
| Annex B (informative) Specific conditions for steel sheet customer qualification | 16 |
| B.1 Purpose..... | 16 |
| B.2 Single-side coatings..... | 16 |
| B.3 Welding parameters | 16 |
| B.4 Minimum weld diameter | 16 |
| Annex C (informative) Test specimens for mechanical characterization | 19 |
| Annex D (informative) Example of test report for welding current range | 21 |
| Annex E (informative) Example of test report for electrode life test..... | 22 |
| Bibliography | 23 |