

# ISO 18278-1:2022-05 (E)

## Resistance welding - Weldability - Part 1: General requirements for the evaluation of weldability for resistance spot, seam and projection welding of metallic materials

---

<b>Contents</b>		<b>Page</b>
<b>Foreword</b>		iv
<b>1</b>	<b>Scope</b>	<b>1</b>
<b>2</b>	<b>Normative references</b>	<b>1</b>
<b>3</b>	<b>Terms and definitions</b>	<b>2</b>
<b>4</b>	<b>Weldability</b>	<b>4</b>
4.1	Weldability of a component	4
4.1.1	General	4
4.1.2	Metallurgical weldability	5
4.1.3	Operative weldability	5
4.1.4	Constructional weldability	5
4.2	Criteria for the evaluation of weldability	5
<b>5</b>	<b>Preparation of welding equipment</b>	<b>6</b>
5.1	Welding machine	6
5.2	Welding electrodes	6
5.2.1	General	6
5.2.2	Spot welding	6
5.2.3	Seam welding	6
5.2.4	Projection welding	6
5.3	Measurement of parameters	7
5.3.1	Welding current	7
5.3.2	Electrode force	7
<b>6</b>	<b>Test procedures</b>	<b>7</b>
6.1	General	7
6.2	Basic test procedures	7
6.2.1	Essential variables	7
6.2.2	Welding current range test	7
6.2.3	Electrode life test	8
6.2.4	Weldability lobe test	9
6.3	Evaluation of weld properties	10
6.3.1	General	10
6.3.2	Shop floor tests	10
6.3.3	Tensile shear testing	10
6.3.4	Mechanized peel testing	11
6.3.5	Cross-tension testing	11
6.3.6	Macro-sections and hardness test	11
6.3.7	Further weld properties	11
<b>7</b>	<b>Test report</b>	<b>11</b>
7.1	General	11
7.2	Welding current range test	11
7.3	Electrode life test	12
7.4	Weldability lobe test	12
<b>Annex A (informative)</b>	<b>How to evaluate the mass and friction of the welding head</b>	<b>14</b>
<b>Bibliography</b>		<b>15</b>