

# DIN EN ISO 2553:2022-07 (E)

## Welding and allied processes - Symbolic representation on drawings - Welded joints (ISO 2553:2019, Corrected version 2021-09)

---

| <b>Contents</b>  |  | <b>Page</b> |
|--|--|-------------|
| <b>European foreword</b> .....                                 |  | <b>4</b>    |
| <b>Foreword</b> .....  |  | <b>5</b>    |
| <b>Introduction</b> .....                                      |  | <b>6</b>    |
| <b>1 Scope</b> .....   |  | <b>7</b>    |
| <b>2 Normative references</b> .....                            |  | <b>7</b>    |
| <b>3 Terms and definitions</b> .....                           |  | <b>7</b>    |
| <b>4 Welding symbol</b> .....                                  |  | <b>11</b>   |
| 4.1 General .....  |  | 11          |
| 4.2 Basic welding symbol .....                                 |  | 11          |
| 4.3 Welding symbol systems .....                               |  | 12          |
| 4.4 Elementary symbols .....                                   |  | 12          |
| 4.4.1 General .....  |  | 12          |
| 4.4.2 Combinations of elementary symbols .....                 |  | 15          |
| 4.4.3 Double-sided butt welds .....                            |  | 15          |
| 4.5 Supplementary symbols .....                                |  | 16          |
| 4.5.1 General .....  |  | 16          |
| 4.5.2 Weld-all-around symbol .....                             |  | 19          |
| 4.5.3 Welds of the same type made from point to point .....    |  | 20          |
| 4.5.4 Field welds .....  |  | 21          |
| 4.5.5 Root reinforcement — Butt welds made from one side ..... |  | 21          |
| 4.5.6 Welds on flanged butt and flanged corner joints .....    |  | 21          |
| 4.6 Arrow line .....   |  | 23          |
| 4.6.1 General .....  |  | 23          |
| 4.6.2 Multiple arrow lines .....                               |  | 23          |
| 4.6.3 Broken arrow line .....                                  |  | 23          |
| 4.7 Reference line and weld location .....                     |  | 24          |
| 4.7.1 Reference line .....                                     |  | 24          |
| 4.7.2 Weld location .....                                      |  | 24          |
| 4.7.3 Multiple reference lines .....                           |  | 25          |
| 4.8 Tail .....   |  | 26          |
| <b>5 Dimensioning of welds</b> .....                           |  | <b>27</b>   |
| 5.1 General .....  |  | 27          |
| 5.2 Cross-sectional dimensions .....                           |  | 27          |
| 5.3 Length dimensions .....                                    |  | 27          |
| 5.3.1 General .....  |  | 27          |
| 5.3.2 Intermittent welds .....                                 |  | 27          |
| 5.4 Butt welds .....   |  | 28          |
| 5.4.1 Penetration depth .....                                  |  | 28          |
| 5.4.2 Double-sided welds .....                                 |  | 28          |
| 5.4.3 Flanged butt welds .....                                 |  | 28          |
| 5.4.4 Flare bevel and flare-V butt welds .....                 |  | 28          |
| 5.5 Fillet welds .....   |  | 28          |
| 5.5.1 Weld size .....  |  | 28          |
| 5.5.2 Deep penetration fillet welds .....                      |  | 28          |
| 5.6 Plug welds in circular holes .....                         |  | 29          |
| 5.7 Plug welds in elongated holes (slots) .....                |  | 29          |
| 5.8 Spot welds .....   |  | 29          |
| 5.9 Seam welds .....   |  | 29          |

|          |  |           |
|----------|--|-----------|
| 5.10     | Edge welds.....  | 29        |
| 5.11     | Stud welds.....  | 29        |
| 5.12     | Overlay welds.....   | 30        |
| 5.13     | Stake welds.....   | 30        |
| <b>6</b> | <b>Dimensioning of joint preparations.....</b>   | <b>43</b> |
| 6.1      | General.....   | 43        |
| 6.2      | Root gap.....  | 43        |
| 6.3      | Included angle.....  | 43        |
| 6.4      | Root radius and depth of root faces — U and J butt joints.....   | 44        |
| 6.5      | Depth of joint preparation.....  | 44        |
| 6.6      | Countersink angle for plug welds.....  | 45        |
| <b>7</b> | <b>Alternative butt weld symbol with required weld quality.....</b>                                      | <b>45</b> |
| 7.1      | General.....   | 45        |
| 7.2      | Example.....   | 46        |
|          | <b>Annex A (informative) Examples of the use of welding symbols.....</b>                                 | <b>47</b> |
|          | <b>Annex B (informative) Tolerances and transition points for weld types.....</b>                        | <b>57</b> |
|          | <b>Annex C (informative) Alternative methods for designating intermittent butt and fillet welds.....</b> | <b>58</b> |
|          | <b>Bibliography.....</b>   | <b>61</b> |