# Welder's qualification test certificate
## ACCORDING TO EN ISO 9606-1:2013

**Designation examples of this Standard**

| ISO 9606-1 | 141 | T | BW | FM4 | S | s3.6 D60 | PH | ss nb |
|---|---|---|---|---|---|---|---|---|
| INTERNATIONAL STANDARD | welding process | product type | type of weld | filler material grouping | filler material | dimension of test piece | welding position | weld details |

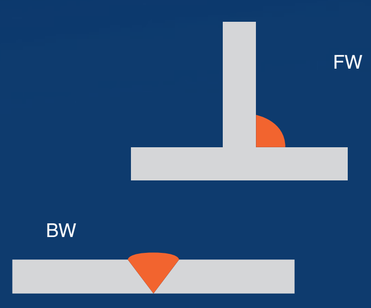
### welding processeses

**according to EN ISO 4063**

| | |
|---|---|
| **111** | manual metal arc welding |
| **114** | self-shielded tubular cored arc welding |
| **121** | submerged arc welding with solid wire electrod (partly mechanized) |
| **125** | submerged arc welding with tubular cored electrode (partly mechanized) |
| **131** | MIG welding with solid wire electrode |
| **135** | MAG welding with solid wire electrode |
| **136** | MAG welding with flux cored electrode |
| **138** | MAG welding with metal cored electrode |
| **141** | TIG welding with solid filler material (wire/rod) |
| **142** | autogenous TIG welding |
| **143** | TIG welding with tubular cored filler material (wire/rod) |
| **145** | TIG welding using reducing gas and solid filler material (wire/rod) |
| **15** | plasma arc welding |
| **311** | oxyacetylene welding |

### types of weld

| | |
|---|---|
| **BW** | butt weld |
| **FW** | fillet weld |




### welding positions

**according to EN ISO 6947**

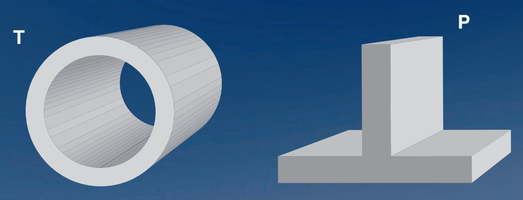
| | |
|---|---|
| **PA** | flat position |
| **PB** | horizontal vertical position |
| **PC** | horizontal position |
| **PD** | horizontal overhead position |
| **PE** | overhead position |
| **PF** | vertical up position |
| **PG** | vertical down position |
| **H-L045** | inclined position welding upwards |
| **J-L045** | inclined position welding downwards |
| **PH** | pipe position for welding upwards |
| **PJ** | pipe position for welding downwards |

### weld details

| | |
|---|---|
| **BW** | **butt weld** |
| **ss** | single side welding |
| **mb** | material backing |
| **nb** | welding with no material backing |
| **gb** | gas backing |
| **fb** | flux backing |
| **bs** | welding from both sides |
| **ci** | consumable insert |
| **FW** | **fillet weld** |
| **sl** | single layer |
| **ml** | multi-layer |
| **311** | **oxyacetylene welding** |
| **lw** | leftward welding |
| **rw** | rightward welding |

### product types

| | |
|---|---|
| **T** | Tube |
| **P** | Plate |




### filler material

**covered electrodes**

Route A

| | |
|---|---|
| A | acid covering |
| B | basic covering or electrode core – basic |
| C | cellulosic covering |
| R | rutile covering or electrode core – rutile, slow-freezing slag |
| RA | rutile – acid covering |
| RB | rutile – basic covering |
| RC | rutile – cellulosic covering |
| RR | rutile – thick covering |

Route B

| | |
|---|---|
| 03 | rutile basic covering |
| 10 | cellulosic covering |
| 11 | cellulosic covering |
| 12 | rutile covering |
| 13 | rutile covering |
| 14 | rutile + iron powder covering |
| 15 | basic covering |
| 16 | basic covering |
| 18 | basic + iron powder covering |
| 19 | limenite covering |
| 20 | iron oxide covering |
| 24 | rutile + iron powder covering |
| 27 | iron oxide + iron powder covering |
| 28 | basic + iron powder covering |
| 45 | basic covering |
| 48 | basic covering |

**cored wire**

| | |
|---|---|
| M | metal cored electrode or metal powder |
| P | electrode core – rutile, fast-freezing slag |
| V | electrode core – rutile or basic/fluoride |
| W | electrode core – basic/fluoride, slow-freezing slag |
| Y | electrode core – basic/fluoride, fast-freezing slag |
| Z | electrode core – other types |

**any other**

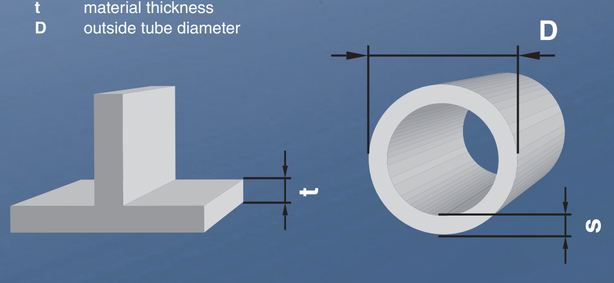
| | |
|---|---|
| S | solid wire electrode – solid rod |
| nm | no filler material |

### filler material grouping

| Group | Filler material for welding of | Examples of applicable standards |
|---|---|---|
| FM1 | Non-alloy and fine grain steels | ISO 2560, ISO 14341, ISO 636, ISO 14171, ISO 17632 |
| FM2 | High-strength steels | ISO 18275, ISO 16834, ISO 26304, ISO 18276 |
| FM3 | Creep-resisting steels Cr < 3,75 % | ISO 3580, ISO 21952, ISO 24598, ISO 17634 |
| FM4 | Creep-resisting steels 3,75 ≤ Cr ≤ 12 % | ISO 3580, ISO 21952, ISO 24598, ISO 17634 |
| FM5 | Stainless and heat-resisting steels | ISO 3581, ISO 14343, ISO 17633 |
| FM6 | Nickel and nickel alloys | ISO 14172, ISO 18247 |


### dimensions of test piece

| | |
|---|---|
| **s** | deposited thickness |
| **t** | material thickness |
| **D** | outside tube diameter |




www.dvs-ev.de/DVS-Pruefstellen

Notified bodies for the welder's qualification test are regulated by European directives, regulations or standards which apply to approved certification personnel or to accreditation according to DIN EN ISO / IEC 17024 for the holding of the welder's qualification test.