



# P 45S

SMAW - (Stick) - MMA  
Un-alloyed

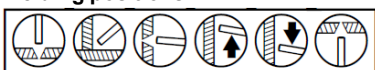
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## Description:

P 45S is a multi-purpose rutile-cellulosic coated electrode suitable for a wide application range in mild steel. The electrode is fully positional, including vertical down and welds with a crisp, steady arc to produce a smooth bead surface with good slag detachability. It is relatively insensitive to rust, dirt and surface coatings. Together with its ability to bridge gaps, the general versatility of P 45S makes it ideal for both shop and site fabrication.

## Applications:

## Welding positions:



## Coating type:

Rutile-cellulosic

## Welding current:

DC+/-, AC OCV  $\geq 50$  V

For root passes: DC-

## Metal recovery:

90%

## Redrying temperature:

90 °C, 2h

## Chemical composition, wt. %

|         | C    | Si   | Mn   | P     | S     | Cr  | Ni  |
|---------|------|------|------|-------|-------|-----|-----|
| Min     |      | 0,30 | 0,30 |       |       |     |     |
| Typical | 0,07 | 0,4  | 0,5  | 0,015 | 0,015 |     |     |
| Max     | 0,10 | 0,70 | 0,75 | 0,030 | 0,020 | 0,1 | 0,2 |

|         | Mo  | Cu  | V    | Nb   |
|---------|-----|-----|------|------|
| Min     |     |     |      |      |
| Typical |     |     |      |      |
| Max     | 0,1 | 0,2 | 0,05 | 0,05 |

## Mechanical properties

|                       | <u>Specified</u>   | <u>Typical</u> |
|-----------------------|--------------------|----------------|
| Yield strength, Re:   | $\geq 420$ MPa     | 470 MPa        |
| Tensile Strength, Rm: | 500-560 MPa        | 550 MPa        |
| Elongation, A5        | $\geq 22\%$        | 24%            |
| Impact energy, CV:    | 0 °C • $\geq 47$ J | 0 °C • 50 J    |

## Classification:

EN ISO 2560-A E 42 0 RC 11  
AWS A5.1 E 6013

## Approvals:

CE  
BV 2Y  
LR 2Ym  
MRS 2  
ABS 2  
DNV 2Y

## Product data:

| Diam.mm | Length mm | Current A | Voltage V | Kg weld metal/<br>kg electrodes | No. of electrodes/<br>kg weld metal | Kg weld metal/<br>hour arc time | Burn-off time/<br>electrode (sec.) |
|---------|-----------|-----------|-----------|---------------------------------|-------------------------------------|---------------------------------|------------------------------------|
| 2,0     | 300       | 40-80     | 24        | 0,7                             | 139                                 | 0,4                             | 40                                 |
| 2,5     | 350       | 70-100    | 25        | 0,7                             | 78                                  | 0,8                             | 48                                 |
| 3,2     | 350       | 90-145    | 25        | 0,7                             | 48                                  | 1,2                             | 49                                 |
| 4,0     | 350       | 120-195   | 25        | 0,7                             | 33                                  | 1,7                             | 58                                 |
| 5,0     | 450       | 180-270   | 26        | 0,75                            | 21                                  | 2,3                             | 64                                 |

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