

## Borularda Kaliteler ve Kimyasal Değerleri / Chemical Compositions Acc. to Steel Pipe Standards

| Standart / Standard | Kalite / Grade | C         | Mn        | Si        | P max | S max       | Cu        | Ni        | Cr        | Mo        | V         | Al          | N           | Nb, Ti, B, As and W |
|---------------------|----------------|-----------|-----------|-----------|-------|-------------|-----------|-----------|-----------|-----------|-----------|-------------|-------------|---------------------|
| API Spec. 5 CT      | H-40           |           |           |           | 0.03  | 0.03        |           |           |           |           |           |             |             |                     |
| API Spec. 5 CT      | J-55           |           |           |           | 0.03  | 0.03        |           |           |           |           |           |             |             |                     |
| API Spec. 5 CT      | K-55           |           |           |           | 0.03  | 0.03        |           |           |           |           |           |             |             |                     |
| API Spec. 5 CT      | N-80           |           |           |           | 0.03  | 0.03        |           |           |           |           |           |             |             |                     |
| API Spec. 5 L       | A              | max. 0.22 | max. 0.90 |           | 0.03  | 0.03        |           |           |           |           |           |             |             |                     |
| API Spec. 5 L       | B              | max. 0.28 | max. 1.20 |           | 0.03  | 0.03        |           |           |           |           |           |             |             |                     |
| API Spec. 5 L       | X 42 - PSL 1   | max. 0.28 | max. 1.30 |           | 0.03  | 0.03        |           |           |           |           |           |             |             |                     |
| API Spec. 5 L       | X 42 - PSL 2   | max. 0.24 | max. 1.30 |           | 0.025 | 0.015       |           |           |           |           |           |             |             |                     |
| API Spec. 5 L       | X 46 - PSL 1   | max. 0.28 | max. 1.40 |           | 0.03  | 0.03        |           |           |           |           |           |             |             |                     |
| API Spec. 5 L       | X 46 - PSL 2   | max. 0.24 | max. 1.40 |           | 0.025 | 0.015       |           |           |           |           |           |             |             |                     |
| API Spec. 5 L       | X 52 - PSL 1   | max. 0.28 | max. 1.40 |           | 0.03  | 0.03        |           |           |           |           |           |             |             |                     |
| API Spec. 5 L       | X 52 - PSL 2   | max. 0.24 | max. 1.40 |           | 0.025 | 0.015       |           |           |           |           |           |             |             |                     |
| API Spec. 5 L       | X 56 - PSL 1   | max. 0.28 | max. 1.40 |           | 0.03  | 0.03        |           |           |           |           |           |             |             |                     |
| API Spec. 5 L       | X 56 - PSL 2   | max. 0.24 | max. 1.40 |           | 0.025 | 0.015       |           |           |           |           |           |             |             |                     |
| API Spec. 5 L       | X 60 - PSL 1   | max. 0.28 | max. 1.40 |           | 0.03  | 0.03        |           |           |           |           |           |             |             |                     |
| API Spec. 5 L       | X 60 - PSL 2   | max. 0.24 | 1.40      |           | 0.025 | 0.015       |           |           |           |           |           |             |             |                     |
| ASTM A53            | Gr. A          | max. 0.25 | max. 0.95 |           | 0.05  | 0.045       | max. 0.40 | max. 0.40 | max. 0.40 | max. 0.15 | max. 0.08 |             |             |                     |
| ASTM A53            | Gr. B          | max. 0.30 | max. 1.20 |           | 0.05  | 0.045       | max. 0.40 | max. 0.40 | max. 0.40 | max. 0.15 | max. 0.08 |             |             |                     |
| ASTM A106           | Gr. A          | max. 0.25 | 0.27-0.93 | min. 0.10 | 0.035 | 0.035       | max. 0.40 | max. 0.40 | max. 0.40 | max. 0.15 | max. 0.08 |             |             |                     |
| ASTM A106           | Gr. B          | max. 0.30 | 0.29-1.06 | min. 0.10 | 0.035 | 0.035       | max. 0.40 | max. 0.40 | max. 0.40 | max. 0.15 | max. 0.08 |             |             |                     |
| ASTM A106           | Gr. C          | max. 0.35 | 0.29-1.06 | min. 0.10 | 0.035 | 0.035       | max. 0.40 | max. 0.40 | max. 0.40 | max. 0.15 | max. 0.08 |             |             |                     |
| ASTM A333           | Gr. 1          | max. 0.30 | 0.40-1.06 |           | 0.025 | 0.025       |           |           |           |           |           |             |             |                     |
| ASTM A333           | Gr. 6          | max. 0.30 | 0.29-1.06 | min. 0.10 | 0.025 | 0.025       |           |           |           |           |           |             |             |                     |
| ASTM A335           | P1             | 0.10-0.20 | 0.30-0.80 | 0.10-0.50 | 0.025 | 0.025       |           |           |           | 0.44-0.65 |           |             |             |                     |
| ASTM A335           | P11            | 0.05-0.15 | 0.30-0.60 | 0.50-1.00 | 0.025 | 0.025       |           |           | 1.00-1.50 | 0.44-0.65 |           |             |             |                     |
| ASTM A335           | P12            | 0.05-0.15 | 0.30-0.60 | max. 0.50 | 0.025 | 0.025       |           |           | 0.80-1.25 | 0.44-0.65 |           |             |             |                     |
| ASTM A335           | P22            | 0.05-0.15 | 0.30-0.60 | max. 0.50 | 0.025 | 0.025       |           |           | 1.90-2.60 | 0.87-1.13 |           |             |             |                     |
| ASTM A335           | P5             | max. 0.15 | 0.30-0.60 | max. 0.50 | 0.025 | 0.025       |           |           | 4.00-6.00 | 0.45-0.65 |           |             |             |                     |
| ASTM A335           | P2             | 0.10-0.20 | 0.30-0.61 | 0.10-0.30 | 0.025 | 0.025       |           |           | 0.50-0.81 | 0.44-0.65 |           |             |             |                     |
| DIN                 | 20 MnV6        | 0.16-0.22 | 1.30-1.70 | 0.10-0.50 | 0.035 | 0.035       |           |           |           |           | 0.10-0.20 |             |             |                     |
| DIN                 | X10CrMoVNb91   | 0.08-0.12 | 0.30-0.60 | 0.20-0.50 | 0.02  | 0.01        |           | max. 0.40 | 8.00-9.50 | 0.85-1.05 | 0.18-0.25 | max. 0.040  | 0.030-0.070 | Nb0.06-0.10         |
| DIN                 | St. 52.0V      | 0.17-0.22 | 0.90-1.20 | 0.17-0.37 | 0.04  | 0.04        | max. 0.30 | max. 0.30 | max. 0.30 |           |           | min. 0.015  |             | B0.001-0.004        |
| DIN                 | St 52.0 MEC    | 0.16-0.20 | 1.25-1.50 |           | 0.035 | 0.020-0.035 |           |           |           |           | max. 0.10 | 0.020-0.050 |             |                     |
| DIN 1629            | St 37.0        | max. 0.17 | -         | -         | 0.04  | 0.04        |           |           |           |           |           |             | 0.012       |                     |
| DIN 1629            | St 44.0        | max. 0.21 | -         | -         | 0.04  | 0.04        |           |           |           |           |           |             | 0.012       |                     |
| DIN 1629            | St 52.0        | max. 0.22 | max. 1.60 | max. 0.55 | 0.04  | 0.035       |           |           |           |           |           | min. 0.020  |             |                     |
| DIN 1630            | St 37.4        | max. 0.17 | min. 0.35 | max. 0.35 | 0.04  | 0.04        |           |           |           |           |           | min. 0.020  |             |                     |
| DIN 1630            | St 44.4        | max. 0.20 | min. 0.40 | max. 0.35 | 0.04  | 0.04        |           |           |           |           |           | min. 0.020  |             |                     |
| DIN 1630            | St 52.4        | max. 0.22 | max. 1.60 | max. 0.55 | 0.04  | 0.035       |           |           |           |           |           | min. 0.020  |             |                     |
| DIN 17 121          | RSt 37-2       | max. 0.17 |           |           | 0.05  | 0.05        |           |           |           |           |           |             | max. 0.009  |                     |
| DIN 17 121          | St 44-2        | max. 0.21 |           |           | 0.05  | 0.05        |           |           |           |           |           |             | max. 0.009  |                     |
| DIN 17 121          | St 37-3        | max. 0.17 |           |           | 0.04  | 0.04        |           |           |           |           |           | min. 0.020  |             |                     |
| DIN 17 121          | St 44-3        | max. 0.20 |           |           | 0.04  | 0.04        |           |           |           |           |           | min. 0.020  |             |                     |
| DIN 17 121          | St 52-3        | max. 0.22 | max. 1.60 | max. 0.55 | 0.04  | 0.04        |           |           |           |           |           | min. 0.020  |             |                     |
| DIN 17 172          | StE 210.7      | max. 0.17 | min. 0.35 | max. 0.45 | 0.04  | 0.035       |           |           |           |           |           |             |             |                     |
| DIN 17 172          | StE 240.7      | max. 0.17 | min. 0.40 | max. 0.45 | 0.04  | 0.035       |           |           |           |           |           | min. 0.020  |             |                     |
| DIN 17 172          | StE 290.7      | max. 0.22 | 0.50-1.10 | max. 0.45 | 0.04  | 0.035       |           |           |           |           |           | min. 0.020  |             |                     |
| DIN 17 172          | StE 320.7      | max. 0.22 | 0.70-1.30 | max. 0.45 | 0.04  | 0.035       |           |           |           |           |           | min. 0.020  |             |                     |
| DIN 17 172          | StE 360.7      | max. 0.22 | 0.90-1.50 | max. 0.55 | 0.04  | 0.035       |           |           |           |           |           | min. 0.020  |             |                     |
| DIN 17 173          | TTSt 35N       | max. 0.17 | min. 0.40 | max. 0.35 | 0.03  | 0.025       |           |           |           |           |           | min. 0.020  |             |                     |
| DIN 17 173          | TTSt 35V       | max. 0.17 | min. 0.40 | max. 0.35 | 0.03  | 0.025       |           |           |           |           |           | min. 0.020  |             |                     |
| DIN 17 175          | St 35.8        | max. 0.17 | 0.40-0.80 | 0.10-0.35 | 0.04  | 0.04        |           |           |           |           |           |             |             |                     |
| DIN 17 175          | St 45.8        | max. 0.21 | 0.40-1.20 | 0.10-0.35 | 0.04  | 0.04        |           |           |           |           |           |             |             |                     |
| DIN 17 175          | 15Mo3          | 0.12-0.20 | 0.40-0.80 | max. 0.50 | 0.035 | 0.035       |           |           |           | 0.25-0.35 |           |             |             |                     |
| DIN 17 175          | 10CrMo910      | 0.08-0.15 | 0.40-0.70 | 0.10-0.35 | 0.035 | 0.035       |           |           | 2.00-2.50 | 0.90-1.20 |           |             |             |                     |
| DIN 17 175          | 13CrMo44       | 0.10-0.18 | 0.40-0.70 | 0.10-0.35 | 0.035 | 0.035       |           |           | 0.70-1.10 | 0.45-0.65 |           |             |             |                     |
| DIN 17 175          | 14MoV63        | 0.10-0.18 | 0.40-0.70 | max. 0.50 | 0.035 | 0.035       |           |           | 0.30-0.60 | 0.50-0.70 | 0.22-0.32 |             |             |                     |
| DIN 17 176          | 12CrMo19.5     | 0.08-0.15 | 0.30-0.60 | max. 0.40 | 0.025 | 0.02        |           |           | 4.00-6.00 | 0.45-0.65 |           |             |             |                     |

## Borularda Kaliteler ve Kimyasal Değerleri / Chemical Compositions Acc. to Steel Pipe Standards

| Standart / Standard | Kalite / Grade | C         | Mn        | Si        | P max | S max | Cu        | Ni        | Cr        | Mo        | V         | Al          | N          | Nb, Ti, B, As and W                                 |
|---------------------|----------------|-----------|-----------|-----------|-------|-------|-----------|-----------|-----------|-----------|-----------|-------------|------------|---|
| DIN 17 204          | 25CrMo4        | 0.22-0.29 | 0.60-0.90 | max. 0.40 | 0.035 | 0.03  |           |           | 0.90-1.20 | 0.15-0.30 |           |             |            |   |
| DIN 17 204          | 34CrMo4        | 0.30-0.37 | 0.60-0.90 | max. 0.40 | 0.035 | 0.03  |           |           | 0.90-1.20 | 0.15-0.30 |           |             |            |   |
| DIN 17 204          | 41Cr4          | 0.38-0.45 | 0.60-0.90 | max. 0.40 | 0.035 | 0.03  |           |           | 0.90-1.20 |           |           |             |            |   |
| DIN 17 204          | C 22           | 0.17-0.24 | 0.30-0.90 | max. 0.40 | 0.045 | 0.045 |           |           |           |           |           |             |            |   |
| DIN 17 204          | C35            | 0.32-0.39 | 0.50-0.80 | max. 0.40 | 0.045 | 0.045 |           |           |           |           |           |             |            |   |
| DIN 17 204          | C 45           | 0.42-0.50 | 0.50-0.80 | max. 0.40 | 0.045 | 0.045 |           |           |           |           |           |             |            |   |
| DIN 17 204          | C 55           | 0.52-0.60 | 0.60-0.90 | max. 0.40 | 0.045 | 0.045 |           |           |           |           |           |             |            |   |
| DIN 17 204          | C 60           | 0.57-0.65 | 0.60-0.90 | max. 0.40 | 0.045 | 0.045 |           |           |           |           |           |             |            |   |
| DIN 17 204          | Ck 22          | 0.17-0.24 | 0.30-0.60 | max. 0.40 | 0.035 | 0.03  |           |           |           |           |           |             |            |   |
| DIN 17 204          | Ck 35          | 0.32-0.39 | 0.50-0.80 | max. 0.40 | 0.035 | 0.03  |           |           |           |           |           |             |            |   |
| DIN 17 204          | Ck 45          | 0.42-0.50 | 0.50-0.80 | max. 0.40 | 0.035 | 0.03  |           |           |           |           |           |             |            |   |
| DIN 17 204          | Ck 55          | 0.52-0.60 | 0.60-0.90 | max. 0.40 | 0.035 | 0.03  |           |           |           |           |           |             |            |   |
| DIN 17 204          | Ck 60          | 0.57-0.65 | 0.60-0.90 | max. 0.40 | 0.035 | 0.03  |           |           |           |           |           |             |            |   |
| DIN 17 210          | C 10           | 0.07-0.13 | 0.30-0.60 | max. 0.40 | 0.045 | 0.045 |           |           |           |           |           |             |            |   |
| DIN 17 210          | C 15           | 0.12-0.18 | 0.30-0.60 | max. 0.40 | 0.045 | 0.045 |           |           |           |           |           |             |            |   |
| DIN 17 210          | Ck 10          | 0.07-0.13 | 0.30-0.60 | max. 0.40 | 0.035 | 0.035 |           |           |           |           |           |             |            |   |
| DIN 17 210          | Ck 15          | 0.12-0.18 | 0.30-0.60 | max. 0.40 | 0.035 | 0.035 |           |           |           |           |           |             |            |   |
| DIN 2391            | St 35          | max. 0.17 | min. 0.40 | max. 0.35 | 0.05  | 0.05  |           |           |           |           |           |             |            |   |
| DIN 2391            | St 45          | max. 0.25 | min. 0.40 | max. 0.35 | 0.05  | 0.05  |           |           |           |           |           |             |            |   |
| DIN 2391            | St 52          | max. 0.22 | max. 1.60 | max. 0.55 | 0.05  | 0.05  |           |           |           |           |           |             |            |   |
| DIN 17 100          | ZSt60-2        | max. 0.40 | 0.20-0.50 | 0.03-0.30 | 0.035 | 0.05  |           |           |           |           |           |             | max. 0.012 |   |
| DIN 17 100          | St60-2         | max. 0.40 | 0.20-0.50 | 0.03-0.30 | 0.035 | 0.05  |           |           |           |           |           |             | max. 0.012 |   |
| EN 10155            | 5335J2G1W      | max. 0.16 | 0.5-1.50  | max. 0.50 | 0.025 | 0.035 | 0.25-0.55 | max. 0.65 | 0.40-0.80 | max. 0.30 |           |             |            |   |
| EN 10208-2          | L 245 NB       | max. 0.16 | max. 1.10 | max. 0.40 | 0.025 | 0.02  | max. 0.25 | max. 0.30 | max. 0.30 | max. 0.10 |           | 0.015-0.060 | max. 0.012 |   |
| EN 10208-2          | L 290 NB       | max. 0.17 | max. 1.20 | max. 0.40 | 0.025 | 0.02  | max. 0.25 | max. 0.30 | max. 0.30 | max. 0.10 | max. 0.05 | 0.015-0.060 | max. 0.012 | Ti a Nb<br>max. 0.04                                |
| EN 10208-2          | L 360 NB       | max. 0.20 | max. 1.60 | max. 0.45 | 0.025 | 0.02  | max. 0.25 | max. 0.30 | max. 0.30 | max. 0.10 | max. 0.10 |             | max. 0.012 | max. Ti 0.04<br>Nb 0.05                             |
| EN 10210            | 5235JRH        | max. 0.17 | max. 1.40 |           | 0.045 | 0.045 |           |           |           |           |           |             | max. 0.009 |   |
| EN 10210            | 5275JOH        | max. 0.20 | max. 1.50 |           | 0.040 | 0.04  |           |           |           |           |           | min. 0.020  | max. 0.009 |   |
| EN 10210            | 5275J2H        | max. 0.20 | max. 1.50 |           | 0.035 | 0.035 |           |           |           |           |           | min. 0.020  |            |   |
| EN 10210            | S355JOH        | max. 0.22 | max. 1.60 | max. 0.55 | 0.040 | 0.04  |           |           |           |           |           | min. 0.020  | max. 0.009 |   |
| EN 10210            | S355J2H        | max. 0.22 | max. 1.60 | max. 0.55 | 0.035 | 0.035 |           |           |           |           |           | min. 0.020  |            |   |
| EN 10216-1          | P195TR1        | max. 0.13 | max. 0.70 | max. 0.35 | 0.025 | 0.02  | max. 0.30 | max. 0.30 | max. 0.30 | max. 0.08 | max. 0.02 |             |            | max. Nb=0.010<br>Ti=0.04<br>Cr+Cu+Mo+Ni<br>max. 0.7 |
| EN 10216-1          | P195TR2        | max. 0.13 | max. 0.70 | max. 0.35 | 0.025 | 0.02  | max. 0.30 | max. 0.30 | max. 0.30 | max. 0.08 | max. 0.02 | min. 0.020  |            | max. Nb=0.010<br>Ti=0.04<br>Cr+Cu+Mo+Ni<br>max. 0.7 |
| EN 10216-1          | P235TR1        | max. 0.16 | max. 1.20 | max. 0.35 | 0.025 | 0.02  | max. 0.30 | max. 0.30 | max. 0.30 | max. 0.08 | max. 0.02 |             |            | max. Nb=0.010<br>Ti=0.04<br>Cr+Cu+Mo+Ni<br>max. 0.7 |
| EN 10216-1          | P235TR2        | max. 0.16 | max. 1.20 | max. 0.35 | 0.025 | 0.02  | max. 0.30 | max. 0.30 | max. 0.30 | max. 0.08 | max. 0.02 | min. 0.020  |            | max. Nb=0.010<br>Ti=0.04<br>Cr+Cu+Mo+Ni<br>max. 0.7 |
| EN 10216-1          | P265TR1        | max. 0.20 | max. 1.40 | max. 0.40 | 0.025 | 0.02  | max. 0.30 | max. 0.30 | max. 0.30 | max. 0.08 | max. 0.02 |             |            | max. Nb=0.010<br>Ti=0.04<br>Cr+Cu+Mo+Ni<br>max. 0.7 |
| EN 10216-1          | P265TR2        | max. 0.20 | max. 1.40 | max. 0.40 | 0.025 | 0.02  | max. 0.30 | max. 0.30 | max. 0.30 | max. 0.08 | max. 0.02 | min. 0.020  |            | max. Nb=0.010<br>Ti=0.04<br>Cr+Cu+Mo+Ni<br>max. 0.7 |
| EN 10216-2          | P195GH         | max. 0.13 | max. 0.70 | max. 0.35 | 0.025 | 0.02  | max. 0.30 | max. 0.30 | max. 0.30 | max. 0.08 | max. 0.02 | min. 0.020  |            | Cr+Cu+Mo+Ni<br>max. 0.7                             |

## Borularda Kaliteler ve Kimyasal Değerleri / Chemical Compositions Acc. to Steel Pipe Standards

| Standart / Standard | Kalite / Grade | C         | Mn        | Si        | P max | S max | Cu        | Ni        | Cr        | Mo        | V         | Al         | N          | Nb, Ti, B, As and W  |
|---------------------|----------------|-----------|-----------|-----------|-------|-------|-----------|-----------|-----------|-----------|-----------|------------|------------|--|
| EN 10216-2          | P235GH         | max. 0.16 | max. 1.20 | max. 0.35 | 0.025 | 0.02  | max. 0.30 | max. 0.30 | max. 0.30 | max. 0.08 | max. 0.02 | min. 0.020 | max. 0.20  | Cr+Cu+Mo+Ni max. 0.7   |
| EN 10216-2          | P265GH         | max. 0.20 | max. 1.40 | max. 0.40 | 0.025 | 0.02  | max. 0.30 | max. 0.30 | max. 0.30 | max. 0.08 | max. 0.02 | min. 0.020 |            | Cr+Cu+Mo+Ni max. 0.7   |
| EN 10216-2          | 16Mo3          | max. 0.20 | max. 0.90 | max. 0.35 | 0.025 | 0.02  | max. 0.30 | max. 0.30 | max. 0.30 | max. 0.35 |           | max. 0.040 |            |  |
| EN 10216-2          | 13CrMo45       | max. 0.17 | max. 0.70 | max. 0.35 | 0.025 | 0.02  | max. 0.30 | max. 0.30 | max. 1.15 | max. 0.60 |           | max. 0.040 |            |  |
| EN 10216-3          | P275NL1        | max. 0.16 | 0.55-1.50 | max. 0.40 | 0.025 | 0.02  | 0.3       | max. 0.50 | max. 0.30 | max. 0.08 | max. 0.05 | min. 0.020 | max. 0.20  | Nb max.0.05<br>Ti max. 0.040<br>Cr+Cu+Mo max. 0.45<br>Nb+Ti+V max. 0.05  |
| EN 10216-3          | P275NL2        | max. 0.16 | 0.55-1.50 | max. 0.40 | 0.025 | 0.015 | 0.3       |           |           |           | max. 0.05 | min. 0.020 | max. 0.20  | Nb max. 0.05<br>Ti max. 0.040<br>Cr+Cu+Mo max. 0.45<br>Nb+Ti+V max. 0.05 |
| EN 10216-3          | P355N          | max. 0.20 | 0.90-1.70 | max. 0.50 | 0.025 | 0.02  | 0.3       | 0.5       | 0.3       | 0.08      | 0.1       | min. 0.020 | 0.02       | Nb+Ti+V max. 0.12  |
| EN 10216-3          | P355NH         | max. 0.20 | 0.90-1.70 | max. 0.50 | 0.025 | 0.02  | 0.3       | max. 0.50 | max. 0.30 | max. 0.08 | max. 0.10 | min. 0.020 | max. 0.020 | Nb max. 0.05<br>Ti max. 0.040<br>Cr+Cu+Mo max. 0.45<br>Nb+Ti+V max. 0.12 |
| EN 10216-3          | P355NL1        | max. 0.18 | 0.90-1.70 | max. 0.50 | 0.025 | 0.02  | 0.3       | max. 0.50 | max. 0.30 | max. 0.08 | max. 0.10 | min. 0.020 | max. 0.020 | Nb max. 0.05<br>Ti max. 0.040<br>Cr+Cu+Mo max. 0.45<br>Nb+Ti+V max. 0.12 |
| EN 10216-3          | P355NL2        | max. 0.18 | 0.90-1.70 | max. 0.50 | 0.025 | 0.015 | 0.3       | max. 0.50 | max. 0.30 | max. 0.08 | max. 0.10 | min. 0.020 | max. 0.020 | Nb max. 0.05<br>Ti max. 0.040<br>Cr+Cu+Mo max. 0.45<br>Nb+Ti+V max. 0.12 |
| EN 10216-3          | P460N          | max. 0.20 | 1.00-1.70 | max. 0.60 | 0.025 | 0.02  | 0.7       | max. 0.80 | max. 0.30 | max. 0.10 | max. 0.20 | min. 0.020 | max. 0.020 | Nb max. 0.05<br>Ti max. 0.040<br>Cr+Cu+Mo max. 0.45<br>Nb+Ti+V max. 0.22 |
| EN 10216-4          | P215NL         | max. 0.15 | 0.40-1.20 | max. 0.35 | 0.025 | 0.02  | 0.3       | max. 0.30 | max. 0.30 | max. 0.08 | 0.02      | min. 0.020 |            | Nb max. 0.10<br>Ti max. 0.040  |
| EN 10216-4          | P255QL         | max. 0.17 | 0.40-1.20 | max. 0.35 | 0.025 | 0.02  | 0.3       | max. 0.30 | max. 0.30 | max. 0.08 | 0.02      | min. 0.020 |            | Nb max. 0.10<br>Ti max. 0.040  |
| EN 10216-4          | P265NL         | max. 0.20 | 0.60-1.40 | max. 0.40 | 0.025 | 0.02  | 0.3       | max. 0.30 | max. 0.30 | max. 0.08 | 0.02      | min. 0.020 |            |  |
| EN 10297-1          | E235           | max. 0.17 | max. 1.20 | max. 0.35 | 0.03  | 0.035 |           |           |           |           |           |            |            |  |
| EN 10297-1          | E275           | max. 0.21 | max. 1.40 | max. 0.35 | 0.03  | 0.035 |           |           |           |           |           |            |            |  |
| EN 10297-1          | E315           | max. 0.21 | max. 1.50 | max. 0.30 | 0.03  | 0.035 |           |           |           |           |           |            |            |  |
| EN 10297-1          | E355           | max. 0.22 | max. 1.60 | max. 0.55 | 0.03  | 0.035 |           |           |           |           |           |            |            |  |
| EN 10297-1          | E355K2         | max. 0.22 | 0.90-1.65 | max. 0.50 | 0.03  | 0.03  | max. 0.35 | max. 0.50 | max. 0.30 | max. 0.10 | max. 0.12 | max. 0.02  | max. 0.015 | Nb Ti max. 0.05  |
| EN 10297-1          | E470           | 0.16-0.22 | 1.30-1.70 | 0.10-0.50 | 0.03  | 0.035 |           |           |           |           | 0.08-0.15 | min. 0.01  | max. 0.020 | Nb max. 0.07   |
| GOST 1050           | 10             | 0.07-0.14 | 0.35-0.65 | 0.17-0.37 | 0.035 | 0.04  | max. 0.25 | max. 0.25 | max. 0.15 |           |           |            |            | As max. 0.080  |
| GOST 1050           | 20             | 0.17-0.24 | 0.35-0.65 | 0.17-0.37 | 0.03  | 0.025 | max. 0.25 | max. 0.25 | max. 0.25 |           |           |            |            | As max. 0.080  |
| GOST 1050           | 25             | 0.22-0.30 | 0.50-0.80 | 0.17-0.37 | 0.035 | 0.04  | max. 0.25 | max. 0.25 | max. 0.25 |           |           |            |            | As max. 0.080  |
| GOST 1050           | 30             | 0.27-0.35 | 0.50-0.80 | 0.17-0.37 | 0.035 | 0.04  | max. 0.25 | max. 0.25 | max. 0.25 |           |           |            |            | As max. 0.080  |
| GOST 1050           | 35             | 0.32-0.40 | 0.50-0.80 | 0.17-0.37 | 0.035 | 0.04  | max. 0.25 | max. 0.25 | max. 0.25 |           |           |            |            | As max. 0.080  |
| GOST 1050           | 45             | 0.42-0.50 | 0.50-0.80 | 0.17-0.37 | 0.035 | 0.04  | max. 0.25 | max. 0.25 | max. 0.25 |           |           |            |            | As max. 0.080  |
| GOST 1050           | 55             | 0.52-0.60 | 0.50-0.80 | 0.17-0.37 | 0.035 | 0.04  | max. 0.25 | max. 0.25 | max. 0.25 |           |           |            |            | As max. 0.080  |
| GOST 20072          | 12Ch1MF        | 0.10-0.15 | 0.40-0.70 | 0.17-0.37 | 0.025 | 0.025 | max. 0.20 | max. 0.25 | 0.90-1.20 | 0.25-0.35 | 0.15-0.30 |            |            |  |
| GOST                | 15Ch1M1F       | 0.10-0.15 | 0.40-0.70 | 0.17-0.37 | 0.025 | 0.025 | max. 0.25 | max. 0.25 | 1.10-1.40 | 0.90-1.10 | 0.20-0.35 | max. 0.020 |            |  |
| GOST 20072          | 15Ch5M         | max. 0.15 | max. 0.50 | max. 0.50 | 0.03  | 0.025 |           | max. 0.60 | 4.50-6.00 | 0.45-0.60 |           |            |            |  |
| GOST 4543           | 15ChM          | 0.10-0.15 | 0.40-0.70 | 0.17-0.37 | 0.025 | 0.035 | max. 0.20 | max. 0.25 | 0.80-1.10 | 0.40-0.55 |           |            |            |  |
| GOST 4543           | 30ChGSA        | 0.20-0.34 | 0.80-1.10 | 0.90-1.20 | 0.035 | 0.035 | max. 0.30 | max. 0.30 | 0.80-1.10 |           | max. 0.05 |            |            |  |
| GOST 4543           | 30ChN2VA       | 0.27-0.34 | 0.30-0.60 | 0.17-0.37 | 0.035 | 0.35  | max. 0.30 | 1.15-1.65 | 0.60-0.90 |           | max. 0.05 |            |            | W 0.50-0.80  |
| GOST 4543           | 40Ch           | 0.36-0.44 | 0.50-0.80 | 0.17-0.37 | 0.035 | 0.035 | max. 0.30 | max. 0.30 | 0.80-1.10 |           |           |            |            |  |