

TP 304H • UNS S30409 • 1.4948 • TPS-INOX 4948-304H

TP 304H with guaranteed carbon content of min. 0,04% gives a better creep resistance. Similar oxidation resistance to TP 304. Main applications: Heat exchangers, chemical and petrochemical furnaces.

| Material grade | Norm | Chemical composition • mass in % | | | | | | | | | |
|----------------|--------------------------|----------------------------------|------|------|-------|-------|---------------|--------------|-------------|----|------------|
| | | C | Si | Mn | P | S | Cr | Ni | Mo | Ti | Sonst. |
| | | max. | max. | max. | max. | max. | min. – max. | min. – max. | min. – max. | | |
| 1.4948 | EN 10216-5 | 0,040 - 0,080 | 1,00 | 2,00 | 0,035 | 0,015 | 17,00 - 19,00 | 8,00 - 11,00 | - | - | N 0,10 max |
| TP304H | ASME SA / AS TM A 213 | 0,040 - 0,100 | 1,00 | 2,00 | 0,045 | 0,030 | 18,00 - 20,00 | 8,00 - 11,00 | - | - | - |

| Material grade | Norm | Mechanical properties and heat treatment | | | | | |
|----------------|--------------------------|--|--------------|-------------|-------|----------|-----------------|
| | | Rp 0,2 [MPa] | Rp 1,0 [MPa] | Rm [MPa] | A [%] | Härte | Wärmebehandlung |
| | | min. | min. | min. – max. | min | HRB max. | |
| 1.4948 | EN 10216-5 | 185 | 225 | 500 - 700 | 40 | - | lösungsgeglüht |
| TP304H | ASME SA / AS TM A 213 | 205 | - | 515 | 35 | 90 | lösungsgeglüht |

| Tolerances | | | | |
|------------------|-----------|-----------|------------|-----------|
| AD - Rohr | AD | WD | special WT | ID |
| ab Ø4,550 mm | ±0,050 mm | ±0,150 mm | ±0,100 mm | X |
| ab Ø9,530 mm | ±0,050 mm | ±0,100 mm | ±0,080 mm | ±0,050 mm |
| ab Ø30,001 mm*** | ±0,100 mm | ±0,150 mm | | ±0,050 mm |

*** to max. Ø44,500 mm

- Tolerances acc. to DIN EN 10305-1 can be confirmed to OD 30mm
- Tolerances acc. to DIN EN ISO 1127 / DIN EN 10216-5 can be confirmed
- Tolerances acc. to ASTM can be confirmed generally

Abmessungsbereich*

Abmessungsspektrum

| AD | WD | [mm] | 0,89 | 1,00 | 1,20 | 1,24 | 1,65 | 1,82 | 2,00 | 2,11 | 2,30 | 2,35 | 2,50 | 2,60 | 2,64 | 2,77 | 2,87 | 3,00 | 3,20 | 3,25 | 3,60 | 3,85 | 3,91 | 4,00 | 4,40 | 5,50 | 6,35 | 7,00 |
|-------|--------|--------|-------|------|------|-------|-------|-------|------|-------|------|-------|------|------|-------|-------|-------|------|-------|-------|------|------|-------|------|------|------|-------|------|
| [mm] | [inch] | [inch] | 0,035 | | | 0,048 | 0,065 | 0,072 | | 0,083 | | 0,093 | | | 0,104 | 0,109 | 0,113 | | 0,126 | 0,128 | | | 0,154 | | | | 0,250 | |
| 6,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6,35 | 0,250 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7,50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9,53 | 0,375 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12,70 | 0,500 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15,88 | 0,625 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16,80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17,15 | 0,675 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19,05 | 0,750 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21,34 | 0,840 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22,23 | 0,875 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25,40 | 1,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26,67 | 1,050 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31,75 | 1,250 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 33,40 | 1,315 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 36,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 38,10 | 1,500 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 42,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 44,50 | 1,750 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

