

Acciaio da bonifica • UNI EN 10269

## RIFERIMENTI NORMATIVI

| UNI-EN     | AFNOR      | DIN-W.Nr. | BS      | AISI-SAE |
|------------|------------|-----------|---------|----------|
| 40CrMoV4-6 | 40CrMoV4-6 | 1.7711    | 670-860 | A193B16  |

## COMPOSIZIONE CHIMICA INDICATIVA

| Elemento  | C           | Mn          | Si    | Cr        | Ni | Mo          | V         |
|-----------|-------------|-------------|-------|-----------|----|-------------|-----------|
| Range [%] | 0.36 – 0.44 | 0.45 – 0.85 | <0.40 | 0.9 – 1.2 | -  | 0.50 – 0.65 | 0.25-0.35 |

## LAVORAZIONE A CALDO E TRATTAMENTO TERMICO

**Punti critici:** Ac1 730°C, Ac3 870°C, Ms 340°C

| Operazione | Fucinatura | Normalizzazione | Ricottura subcritica | Ricottura sferoidale | Tempra   | Rinvenimento |
|------------|------------|-----------------|----------------------|----------------------|----------|--------------|
| T [°C]     | 1100 - 950 | 880 - 900       | 680 - 730            | 830                  | 900 -930 | 650 - 720    |

## CARATTERISTICHE MECCANICHE

| Rinvenimento °C          | 200  | 250  | 300  | 350  | 400  | 450  |
|--------------------------|------|------|------|------|------|------|
| HRC                      | 53   | 52.5 | 52   | 50.5 | 48.5 | 46.5 |
| R N/mm <sup>2</sup>      | 1950 | 1920 | 1860 | 1780 | 1660 | 1550 |
| Rp 0.2 N/mm <sup>2</sup> | 1600 | 1600 | 1580 | 1550 | 1480 | 1360 |
| A (%)                    | 8    | 8    | 8    | 8    | 8    | 8.5  |

**IMPIEGHI** utilizzato per realizzare componenti che richiedono elevata durezza, resistenza e tenacità, come alberi per pompe, componenti di macchine, parti di ingranaggi e stampi.



Quenched and tempered steel • UNI EN 10269

## REFERENCES

| UNI-EN     | AFNOR      | DIN-W.Nr. | BS      | AISI-SAE |
|------------|------------|-----------|---------|----------|
| 40CrMoV4-6 | 40CrMoV4-6 | 1.7711    | 670-860 | A193B16  |

## CHEMICAL COMPOSITION

| Element   | C           | Mn          | Si    | Cr        | Ni | Mo          | V         |
|-----------|-------------|-------------|-------|-----------|----|-------------|-----------|
| Range [%] | 0.36 – 0.44 | 0.45 – 0.85 | <0.40 | 0.9 – 1.2 | -  | 0.50 – 0.65 | 0.25-0.35 |

## HOT FORMING AND HEAT TREATMENT

**Critical points:** Ac1 730°C, Ac3 870°C, Ms 340°C

| Operation | Forging    | Normalizing | Subcritical annealing | Spheroidal annealing | Quenching | Tempering |
|-----------|------------|-------------|-----------------------|----------------------|-----------|-----------|
| T [°C]    | 1100 - 950 | 880 - 900   | 680 - 730             | 830                  | 900 -930  | 650 - 720 |

## MECHANICAL PROPERTIES

| Tempering °C             | 200  | 250  | 300  | 350  | 400  | 450  |
|--------------------------|------|------|------|------|------|------|
| HRC                      | 53   | 52.5 | 52   | 50.5 | 48.5 | 46.5 |
| R N/mm <sup>2</sup>      | 1950 | 1920 | 1860 | 1780 | 1660 | 1550 |
| Rp 0.2 N/mm <sup>2</sup> | 1600 | 1600 | 1580 | 1550 | 1480 | 1360 |
| E (%)                    | 8    | 8    | 8    | 8    | 8    | 8.5  |

**USES** used to make components requiring high hardness, strength and toughness, such as pump shafts, machine components, gear parts and molds.

