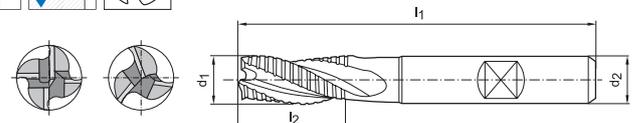
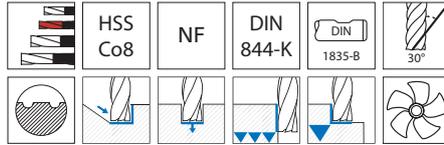


Fresa de desbastado y acabado

Características: con corte central, adecuada para taladrar.

Aplicación: se puede utilizar para el fresado de contornos y perforaciones.



2184 pulido

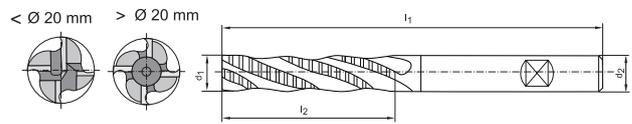
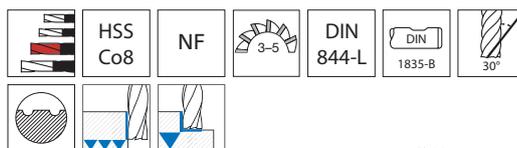


2158 TiAlN

| Aplicación | ACERO | | | INOX | | | FUNDICIÓN | | ALEACIONES ESPECIALES | METALES NO FÉRRICOS | | | | ACERO TEMPLADO | | | Ref. |
|------------------------|-------------------------|--------------------------|--------------------------|-------------------|-------------|--------|-----------|-----|---------------------------------|---------------------|------------------|----------------------------|--------------------|----------------|----------|----------|------|
| | < 700 N/mm ² | < 1000 N/mm ² | < 1400 N/mm ² | Ferrit./ martens. | Austenítico | Duplex | GG/GTS | GGG | Titanio > 850 N/mm ² | Aluminio < 8% Si | Aluminio > 8% Si | Aleaciones de cobre y cinc | GFRP/CFRP/ Duropl. | < 55 HRC | < 60 HRC | > 60 HRC | |
| V _c [m/min] | 30 | 25 | 15 | - | - | - | - | - | - | 80 | - | - | - | - | - | - | 2158 |
| | | | | | | | | | | | | | | | | | 2184 |

| Ø d ₁ = k10 mm | Longitud de filos l ₂ mm | Longitud total l ₁ mm | Ø vástago d ₂ = h6 mm | Número de dientes | f _z mm | ACERO | 2184 pulido | 2158 TiAlN | Ref. |
|---------------------------|-------------------------------------|----------------------------------|----------------------------------|-------------------|-------------------|--------------------------|-------------|------------|------|
| | | | | | | < 1000 N/mm ² | € | € | |
| 6 | 13 | 57 | 6 | 3 | 0,01 | 27,04 | 31,80 | ...0600 | |
| 8 | 19 | 69 | 10 | 4 | 0,018 | 28,73 | 42,89 | ...0800 | |
| 10 | 22 | 72 | 10 | 4 | 0,037 | 31,71 | 40,27 | ...1000 | |
| 12 | 26 | 83 | 12 | 4 | 0,034 | 32,33 | 48,82 | ...1200 | |
| 16 | 32 | 92 | 16 | 4 | 0,049 | 50,29 | 64,76 | ...1600 | |
| 20 | 38 | 104 | 20 | 4 | 0,063 | 60,80 | 83,69 | ...2000 | |
| 14 | 26 | 83 | 12 | - | 0,052 | - | 60,04 | ...1400 | |
| 18 | 32 | 92 | 16 | - | 0,073 | - | 82,07 | ...1800 | |
| 22 | 38 | 104 | 20 | - | 0,106 | - | 109,60 | ...2200 | |
| 25 | 45 | 121 | 25 | - | 0,13 | - | 113,22 | ...2500 | |

Fresa de desbastado y acabado



pulido

| Aplicación | ACERO | | | INOX | | | FUNDICIÓN | | ALEACIONES ESPECIALES | METALES NO FÉRRICOS | | | | ACERO TEMPLADO | | | Ref. |
|------------------------|-------------------------|--------------------------|--------------------------|-------------------|-------------|--------|-----------|-----|---------------------------------|---------------------|------------------|----------------------------|--------------------|----------------|----------|----------|------|
| | < 700 N/mm ² | < 1000 N/mm ² | < 1400 N/mm ² | Ferrit./ martens. | Austenítico | Duplex | GG/GTS | GGG | Titanio > 850 N/mm ² | Aluminio < 8% Si | Aluminio > 8% Si | Aleaciones de cobre y cinc | GFRP/CFRP/ Duropl. | < 55 HRC | < 60 HRC | > 60 HRC | |
| V _c [m/min] | 30 | 25 | 15 | - | - | - | - | - | - | 80 | - | - | - | - | - | - | 2187 |

| Ø d ₁ = k10 mm | Longitud de filos l ₂ mm | Longitud total l ₁ mm | Ø vástago d ₂ = h6 mm | Número de dientes | f _z mm | ACERO | 2187 pulido | Ref. |
|---------------------------|-------------------------------------|----------------------------------|----------------------------------|-------------------|-------------------|--------------------------|-------------|------|
| | | | | | | < 1400 N/mm ² | € | |
| 6 | 24 | 68 | 6 | 3 | 0,01 | 34,89 | ...0600 | |
| 8 | 38 | 88 | 10 | 4 | 0,013 | 37,73 | ...0800 | |
| 10 | 45 | 95 | 10 | 4 | 0,028 | 36,60 | ...1000 | |
| 12 | 53 | 110 | 12 | 4 | 0,034 | 48,04 | ...1200 | |

* Sin corte al centro.

Continúa en la página siguiente



Fresa de desbastado y acabado

Continuación

| Ø d ₁ = k10 mm | Longitud de filos l ₂ mm | Longitud total l ₁ mm | Ø vástago d ₂ = h6 mm | Número de dientes | format | | Ref. |
|------------------------------|--|-------------------------------------|-------------------------------------|----------------------|---|---------------------|---------|
| | | | | | ACERO < 1400 N/mm ² f _z mm | 2187 pulido € | |
| 16 | 63 | 123 | 16 | 4 | 0,049 | 61,96 | ...1600 |
| 20 | 75 | 141 | 20 | 4 | 0,063 | 80,71 | ...2000 |
| 25* | 90 | 166 | 25 | 5 | 0,078 | 118,22 | ...2500 |

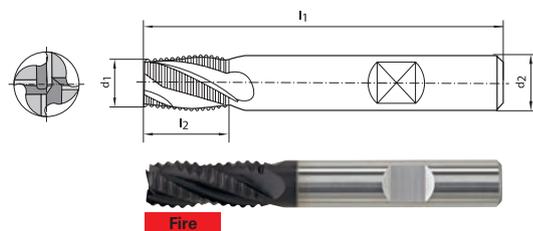
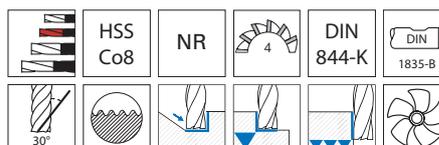
(W113)

* Sin corte al centro.

Fresa de desbastar

Características: con corte central.

Aplicación: se puede utilizar para el fresado frontal y de contornos.



| Aplicación | ACERO | | | INOX | | | FUNDICIÓN | | ALEACIONES ESPECIALES | METALES NO FÉRRICOS | | | ACERO TEMPLADO | | | Ref. | |
|------------------------|-------------------------|--------------------------|--------------------------|------------------|-------------|--------|-----------|-----|---------------------------------|---------------------|------------------|----------------------------|-------------------|----------|----------|------|----------|
| | < 700 N/mm ² | < 1000 N/mm ² | < 1400 N/mm ² | Ferrit./martens. | Austenítico | Duplex | GG/GTS | GGG | Titanio > 850 N/mm ² | Aluminio < 8% Si | Aluminio > 8% Si | Aleaciones de cobre y cinc | GFRP/CFRP/Duropl. | < 55 HRC | < 60 HRC | | > 60 HRC |
| V _c [m/min] | 55 | 44 | 35 | - | - | 35 | - | - | 22 | 110 | 110 | - | - | - | - | - | 2209 |

| Ø d ₁ = k12 mm | Longitud de filos l ₂ mm | Longitud total l ₁ mm | Ø vástago d ₂ = h6 mm | GUHRING | | Ref. |
|------------------------------|--|-------------------------------------|-------------------------------------|---|-------------------|---------|
| | | | | ACERO < 1400 N/mm ² f _z mm | 2209 Fire € | |
| 6 | 13 | 57 | 6 | 0,028 | 38,42 | ...0600 |
| 8 | 19 | 69 | 10 | 0,037 | 40,60 | ...0800 |
| 10 | 22 | 72 | 10 | 0,046 | 40,60 | ...1000 |
| 12 | 26 | 83 | 12 | 0,055 | 56,05 | ...1200 |
| 14 | 26 | 83 | 12 | 0,06 | 61,52 | ...1400 |
| 16 | 32 | 92 | 16 | 0,067 | 69,14 | ...1600 |
| 18 | 32 | 92 | 16 | 0,07 | 71,37 | ...1800 |
| 20 | 38 | 104 | 20 | 0,085 | 95,52 | ...2000 |

(W103)