

































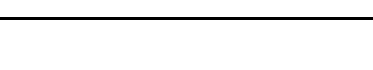


Inhaltsverzeichnis **content** adresář

| Katalog-Nr. No. číslo | Bezeichnung specification označení | Beschichtung coating povlac | Stahl steel ocel | | | gehärteter Stahl hardened steel kalená ocel | | | INOX | GG(G) | NE-Werkstoffe non-ferrous materials neželezné mat. | | | | hochwarmfest high temperature výsoka tepelná odolnost | | Emulsion | | trocken dry na suchu | Luft air vzduch | universal | Bild image schéma |
|-----------------------------|--|-----------------------------------|-------------------------|--------------------------|--------------------------|---|----------|----------|------|-------|--|----|----|--------|---|----|----------|------------------|----------------------|-----------------|-----------|---|
| | | | < 850 N/mm ² | < 1100 N/mm ² | < 1400 N/mm ² | < 55 HRC | < 60 HRC | < 67 HRC | | | Al | Cu | Mg | GFK/PE | Graphit | Ni | Ti | Stahl steel ocel | | | | |
| | Kennzeichnung color code označení | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| 429005 | Vollhartmetall Gravierfräser 60° Solid carbide engraving cutter 60° tvrdokovová gravírovací fréza 60° | - | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | | | | ● |  |
| 429010 | Vollhartmetall Viertelkreisfräser bis 55 HRC Solid carbide quarter round cutter up to 55 HRC tvrdokovová radiusová fréza čtvrtvá do 55 HRC | - | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | | | ● |  |
| | | TiAlN | ● | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | | | ● |
| 429015 | VHM Rückwärts-Viertelkreisfräser SC backward quarter round cutter tvrdokovová zpětná radiusová fréza čtvrtvá | TiAlN | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | | | ● |  |
| 429020 | VHM Vor- und Rückwärts-Entgrater 90° bis 55 HRC SC forward and backward deburrer 90° up to 55 HRC tvrdokovový odjehlovač 90° oboustranný do 55 HRC | - | ● | ● | | | | | ● | ● | ● | ● | ● | ● | ● | ○ | | ● | | | ● |  |
| | | TiAlN | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | | ● | | | ● |
| 429025 | Vollhartmetall NC-Entgrater 30°, 45°, 60°, 90°, 120° Solid carbide NC deburrer tvrdokovový NC-odjehlovač | - | ● | ● | ● | | | | ● | ● | ● | | | | | ● | ○ | | | | ● |  |
| | | TiAlN | ● | ● | ● | ● | | | | ● | ● | ● | | | | | ● | ○ | ○ | | | ● |
| 429030 | Vollhartmetall NC-Entgrater 45° Solid carbide NC deburrer 45° tvrdokovový NC-odjehlovač 45° | - | ● | ● | ● | | | | ● | ● | ● | | | | | ● | ○ | | | | ● |  |
| | | TiAlN | ● | ● | ● | ● | | | | ● | ● | ● | | | | | ● | ○ | ○ | | | ● |
| 429035 | Vollhartmetall NC-Entgrater 60° Solid carbide NC deburrer 60° tvrdokovový NC-odjehlovač 60° | - | ● | ● | ● | | | | ● | ● | ● | | | | | ● | ○ | | | | ● |  |
| | | TiAlN | ● | ● | ● | ● | | | | ● | ● | ● | | | | | ● | ○ | ○ | | | ● |
| 429040 | Vollhartmetall NC-Entgrater 90° Solid carbide NC deburrer 90° tvrdokovový NC-odjehlovač 90° | - | ● | ● | ● | | | | ● | ● | ● | | | | | ● | ○ | | | | ● |  |
| | | TiAlN | ● | ● | ● | ● | | | | ● | ● | ● | | | | | ● | ○ | ○ | | | ● |
| 429045 | Vollhartmetall NC-Entgrater 120° Solid carbide NC deburrer 120° tvrdokovový NC-odjehlovač 120° | - | ● | ● | ● | | | | ● | ● | ● | | | | | ● | ○ | | | | ● |  |
| | | TiAlN | ● | ● | ● | ● | | | | ● | ● | ● | | | | | ● | ○ | ○ | | | ● |
| 429050 | Vollhartmetall Entgrater Solid carbide deburrer tvrdokovový odjehlovač | - | ● | ● | ● | | | | ● | ● | ● | | | | | ● | ○ | | | | ● |  |
| 429055 | Vollhartmetall Entgrater Solid carbide deburrer tvrdokovový odjehlovač | - | ● | ● | ● | | | | ● | ● | ● | | | | | ● | ○ | | | | ● |  |











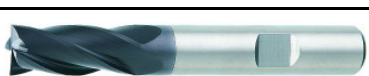
Inhaltsverzeichnis **content** adresář

| Katalog-Nr. No. číslo | Bezeichnung specification označení | Beschichtung coating povlac | Stahl steel ocel | | | gehärteter Stahl hardened steel kalená ocel | | | INOX | GG(G) | NE-Werkstoffe non-ferrous materials neželezné mat. | | | | hochwarmfest high temperature výsoka teplotná odolnosť | | Emulsion | | trocken dry na suchu | Luft air vzduch | universal | Bild image schéma |
|-----------------------------------|---|-----------------------------------|-------------------------|--------------------------|--------------------------|---|----------|----------|------|-------|--|----|----|--------|--|----|----------|------------------|----------------------|-----------------|---|-------------------------|
| | | | < 850 N/mm ² | < 1100 N/mm ² | < 1400 N/mm ² | < 55 HRC | < 60 HRC | < 67 HRC | | | Al | Cu | Mg | GFK/PE | Graphit | Ni | Ti | Stahl steel ocel | | | | |
| Kennzeichnung color code označení | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| 429060 | Vollhartmetall Schlichtfräser, konisch α/2 0,5° Solid carbide finishing end mill, tapered α/2 0.5° tvrdokovová dokončovací fréza kónická α/2 0,5° | - | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | |  | |
| | | TiAIN | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | | |
| 429065 | Vollhartmetall Schlichtfräser, konisch α/2 1,0° Solid carbide finishing end mill, tapered α/2 1.0° tvrdokovová dokončovací fréza kónická α/2 1,0° | - | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | |  | |
| | | TiAIN | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | | |
| 429070 | Vollhartmetall Schlichtfräser, konisch α/2 1,5° Solid carbide finishing end mill, tapered α/2 1.5° tvrdokovová dokončovací fréza kónická α/2 1,5° | - | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | |  | |
| | | TiAIN | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | | |
| 429075 | Vollhartmetall Schlichtfräser, konisch α/2 2,0° Solid carbide finishing end mill, tapered α/2 2.0° tvrdokovová dokončovací fréza kónická α/2 2,0° | - | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | |  | |
| | | TiAIN | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | | |
| 429080 | Vollhartmetall Schlichtfräser, konisch α/2 2,5° Solid carbide finishing end mill, tapered α/2 2.5° tvrdokovová dokončovací fréza kónická α/2 2,5° | - | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | |  | |
| | | TiAIN | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | | |
| 429085 | Vollhartmetall Schlichtfräser, konisch α/2 3,0° Solid carbide finishing end mill, tapered α/2 3.0° tvrdokovová dokončovací fréza kónická α/2 3,0° | - | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | |  | |
| | | TiAIN | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | | |
| 429090 | Vollhartmetall Schlichtfräser, konisch α/2 4,0° Solid carbide finishing end mill, tapered α/2 4.0° tvrdokovová dokončovací fréza kónická α/2 4,0° | - | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | |  | |
| | | TiAIN | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | | |
| 429095 | Vollhartmetall Schlichtfräser, konisch α/2 5,0° Solid carbide finishing end mill, tapered α/2 5.0° tvrdokovová dokončovací fréza kónická α/2 5,0° | - | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | |  | |
| | | TiAIN | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | | |
| 429100 | Vollhartmetall 1-Schneiden-Fräser Solid carbide single-flute end mill tvrdokovová jednobřítá fréza | - | | | | | | | | ● | ● | ● | | | | ● | ○ | ○ | ○ | |  | |
| 429105 | Vollhartmetall 1-Schneiden-Fräser Solid carbide single-flute end mill tvrdokovová jednobřítá fréza | - | | | | | | | | ● | ● | ● | | | | ● | ○ | ○ | ○ | |  | |
| 429110 | Vollhartmetall 1-Schneiden-Fräser Solid carbide single-flute end mill tvrdokovová jednobřítá fréza | - | | | | | | | | ● | ● | ● | | | | ● | ○ | ○ | ○ | |  | |






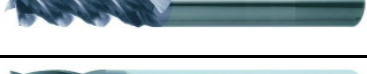
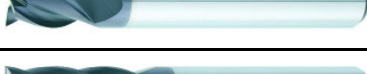



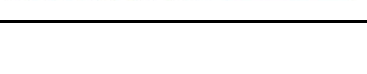
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|-----------------------------|---|-----------------------------------|-------------------------|--------------------------|--------------------------|---|----------|----------|------|-------|--|----|----|--------|---|----|----------|------------------|----------------------|-----------------|---|---|
| | | | < 850 N/mm ² | < 1100 N/mm ² | < 1400 N/mm ² | < 55 HRC | < 60 HRC | < 67 HRC | | | Al | Cu | Mg | GFK/PE | Graphit | Ni | Ti | Stahl steel ocel | | | | |
| | Kennzeichnung color code označení | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| 429115 | Vollhartmetall Langlochfräser Solid carbide slotting end mill tvrdokovová drážkovací fréza | TiAlN | ● | ● | ● | | | | ● | ● | ● | ● | ● | | | | ● | ○ | ○ | ● |  | |
| 429120 | Vollhartmetall Langlochfräser Solid carbide slotting end mill tvrdokovová drážkovací fréza | TiAlN | ● | ● | ● | | | | ● | ● | ● | ● | | | | | ● | ○ | ○ | ● |  | |
| 429125 | Vollhartmetall Langlochfräser Solid carbide slotting end mill tvrdokovová drážkovací fréza | - | ● | ● | ● | | | | ● | ● | ● | | | | | ● | ● | ○ | | ● |  | |
| 429130 | VHM NC-Mini-Langlochfräser bis 55 HRC Solid carbide NC miniature slotting end mill up to 55 HRC tvrdokovová NC drážkovací fréza do 55 HRC | - | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ● |  | |
| | | TiAlN | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ● |  |
| 429135 | VHM NC-Mini-Langlochfräser bis 55 HRC Solid carbide NC miniature slotting end mill up to 55 HRC tvrdokovová NC drážkovací fréza do 55 HRC | - | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ● |  | |
| | | TiAlN | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ● |  |
| 429140 | Vollhartmetall Langlochfräser bis 55 HRC Solid carbide slotting end mill up to 55 HRC tvrdokovová drážkovací fréza do 55 HRC | - | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ● |  | |
| | | TiAlN | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ● |  |
| 429145 | Vollhartmetall Langlochfräser Solid carbide slotting end mill tvrdokovová drážkovací fréza | - | ● | ● | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ○ | ● |  | |
| 429150 | Vollhartmetall Langlochfräser Solid carbide slotting end mill tvrdokovová drážkovací fréza | - | ● | ● | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ○ | ● |  | |
| 429155 | VHM NC-Langloch-Untermaß-Fräser bis 55 HRC Solid carbide NC undersize slotting end mill up to 55 HRC tvrdokovová NC-drážkovací fréza atyp.rozměrů do 55 HRC | - | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ● |  | |
| | | TiAlN | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ● |  |
| 429160 | Vollhartmetall Mini-Fräser, 3 Schneiden bis 55 HRC Solid carbide miniature end mill, 3-flute, up to 55 HRC tvrdokovová 3-břítá minifréza do 55 HRC | - | ● | ● | ● | | | | ● | ● | ● | | ● | ● | ● | ● | ○ | ○ | ● | ● | | |
| | | TiAlN | ● | ● | ● | | | | ● | ● | ● | | ● | ● | ● | ● | ● | ○ | ○ | ● | ● | |
| 429165 | Vollhartmetall Einweg-Fräser, 3-Schneiden bis 55 HRC Solid carbide disposable end mill, 3-flute, up to 55 HRC tvrdokovová 3-břítá fréza do 55 HRC | - | ● | ● | ● | | | | ● | ● | ● | | ● | ● | ● | ● | ○ | ○ | ● | ● | | |
| | | TiAlN | ● | ● | ● | | | | ● | ● | ● | | ● | ● | ● | ● | ● | ○ | ○ | ● | ● | |










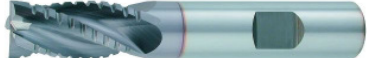

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|-----------------------------|---|-----------------------------------|-------------------------|--------------------------|------|-------|--------------------------|----------|----------|----------|-----------------------|---------|----------|----|------------------------|-------------------|-----------|---|
| | | | < 850 N/mm ² | < 1100 N/mm ² | | | < 1400 N/mm ² | < 55 HRC | < 60 HRC | < 67 HRC | non-ferrous materials | Graphit | Ni | Ti | | | | |
| | Kennzeichnung color code označení | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| 429170 | Vollhartmetall Einweg-Fräser, 3-Schneiden bis 55 HRC Solid carbide disposable end mill, 3-flute, up to 55 HRC tvrdokovová 3-břítá fréza do 55 HRC | - | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ● |  |
| | | TiAlN | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ● | |
| 429175 | Vollhartmetall 3-Schneiden-Fräser Solid carbide 3-flute end mill tvrdokovová 3-břítá fréza | TiAlN | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ● |  |
| 429180 | Vollhartmetall 3-Schneiden-Fräser Solid carbide 3-flute end mill tvrdokovová 3-břítá fréza | TiAlN | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ● |  |
| 429185 | Vollhartmetall 3-Schneiden-Fräser Solid carbide 3-flute end mill tvrdokovová 3-břítá fréza | TiAlN | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ● |  |
| 429190 | Vollhartmetall 3-Schneiden-Fräser Solid carbide 3-flute end mill tvrdokovová 3-břítá fréza | TiAlN | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ● |  |
| 429195 | Vollhartmetall 3-Schneiden-Fräser bis 55 HRC Solid carbide 3-flute end mill up to 55 HRC tvrdokovová 3-břítá fréza do 55 HRC | - | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ● |  |
| | | TiAlN | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ● | |
| 429200 | Vollhartmetall 3-Schneiden-Fräser bis 55 HRC Solid carbide 3-flute end mill up to 55 HRC tvrdokovová 3-břítá fréza do 55 HRC | - | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ● |  |
| | | TiAlN | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ● | |
| 429205 | Vollhartmetall NC-Schaftfräser 45° Solid carbide NC end mill 45° tvrdokovová NC-stopková fréza 45° | - | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ● |  |
| | | TiCN | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ● | |
| 429210 | Vollhartmetall NC-Schaftfräser 45° Solid carbide NC end mill 45° tvrdokovová NC-stopková fréza 45° | - | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ● |  |
| | | TiCN | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ● | |
| 429215 | Vollhartmetall 4-Schneiden-Fräser Solid carbide 4-flute end mill tvrdokovová 4-břítá fréza | TiAlN | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ● |  |
| 429220 | Vollhartmetall 4-Schneiden-Fräser Solid carbide 4-flute end mill tvrdokovová 4-břítá fréza | TiAlN | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ● |  |












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| Katalog-Nr. No. číslo | Bezeichnung specification označení | Beschichtung coating povlac | Stahl | gehärteter Stahl | INOX | GG(G) | NE-Werkstoffe | | | | hochwarmfest | | Emulsion | | trocken / dry na suchu | Luft / air vzduch | universal | Bild image schéma | |
|-----------------------------|--|-----------------------------------|-------------------------|--------------------------|------|-------|--------------------------|----------|----------|----------|--------------|----|----------|--------|------------------------|-------------------|-----------|-------------------------|---|
| | | | < 850 N/mm ² | < 1100 N/mm ² | | | < 1400 N/mm ² | < 55 HRC | < 60 HRC | < 67 HRC | Al | Cu | Mg | GFK/PE | | | | | Graphit |
| | Kennzeichnung color code označení | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| 429225 | Vollhartmetall 4-Schneiden-Fräser bis 55 HRC Solid carbide 4-flute end mill up to 55 HRC tvrdokovová 4-břítá fréza do 55 HRC | - | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |  |
| | | TiAlN | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| 429230 | Vollhartmetall 4-Schneiden-Fräser bis 55 HRC Solid carbide 4-flute end mill up to 55 HRC tvrdokovová 4-břítá fréza do 55 HRC | - | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ● | ● | ● | ● |  |
| | | TiAlN | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ● | ● | ● | ● | |
| 429235 | Vollhartmetall 4-Schneiden-Fräser bis 55 HRC Solid carbide 4-flute end mill up to 55 HRC tvrdokovová 4-břítá fréza do 55 HRC | - | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ● | ● | ● | ● |  |
| | | TiAlN | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ● | ● | ● | ● | |
| 429240 | Vollhartmetall 4-Schneiden-Fräser Solid carbide 4-flute end mill tvrdokovová 4-břítá fréza | - | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ○ | ● | ● |  |
| | | TiAlN | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ○ | ● | ● | |
| 429245 | Vollhartmetall HPC- Hochleistungs-Fräser Solid carbide HPC end mill tvrdokovová HPC vysokovýkonná fréza | - | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ○ | ● | ● |  |
| | | TiCN | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ○ | ● | ● | |
| 429250 | Vollhartmetall HPC- Hochleistungs-Fräser Solid carbide HPC end mill tvrdokovová HPC vysokovýkonná fréza | - | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ○ | ● | ● |  |
| | | TiCN | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ○ | ● | ● | |
| 429255 | Vollhartmetall HPC Fräser bis 55 HRC Solid carbide HPC end mill up to 55 HRC tvrdokovová HPC vysokovýkonná fréza do 55 HRC | - | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ● | ● | ● | ● |  |
| | | TiAlN | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ● | ● | ● | ● | |
| 429260 | Vollhartmetall HPC Fräser bis 55 HRC Solid carbide HPC end mill up to 55 HRC tvrdokovová HPC vysokovýkonná fréza do 55 HRC | - | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ● | ● | ● | ● |  |
| | | TiAlN | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ● | ● | ● | ● | |
| 429265 | Vollhartmetall Fräser bis 55 HRC Solid carbide end mill up to 55 HRC tvrdokovová fréza do 55 HRC | - | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ● | ○ | ● | ● |  |
| | | TiAlN | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ● | ○ | ● | ● | |
| 429270 | Vollhartmetall Fräser bis 55 HRC Solid carbide end mill up to 55 HRC tvrdokovová fréza do 55 HRC | - | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ● | ○ | ● | ● |  |
| | | TiAlN | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ● | ○ | ● | ● | |
| 429275 | Vollhartmetall Fräser bis 55 HRC Solid carbide end mill up to 55 HRC tvrdokovová fréza do 55 HRC | - | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ● | ○ | ● | ● |  |
| | | TiAlN | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ● | ○ | ● | ● | |












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| Katalog-Nr. No. číslo | Bezeichnung specification označení | Beschichtung coating povlac | Stahl | gehärteter Stahl | INOX | GG(G) | NE-Werkstoffe | | | | | hochwarmfest | | Emulsion | | trocken / dry na suchu | Luft / air vzduch | universal | Bild image schéma | |
|-----------------------------|---|-----------------------------------|-------------------------|--------------------------|------|-------|--------------------------|----------|----------|----------|----|--------------|----|----------|---------|---------------------------|----------------------|-----------|-------------------------|---|
| | | | < 850 N/mm ² | < 1100 N/mm ² | | | < 1400 N/mm ² | < 55 HRC | < 60 HRC | < 67 HRC | Al | Cu | Mg | GFK/PE | Graphit | | | | | Ni |
| | Kennzeichnung color code označení | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| 429280 | Vollhartmetall Fräser Solid carbide end mill tvrdokovová fréza | - | ● | | | ● | ● | ● | ● | ● | | | ● | ● | ● | ● | ● | ● | |  |
| | | TiAlN | ● | ● | | | ● | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | |
| 429285 | Vollhartmetall Fräser bis 67 HRC Solid carbide end mill up to 67 HRC tvrdokovová fréza do 67 HRC | TiAlN | ● | ● | ● | ● | ● | ● | | | | | ● | ● | ● | ○ | ● | ○ | ● |  |
| | | TiAlN | ● | ● | ● | ● | ● | ● | | | | | ● | ● | ● | ○ | ● | ○ | ● | |
| 429290 | Vollhartmetall Fräser bis 67 HRC Solid carbide end mill up to 67 HRC tvrdokovová fréza do 67 HRC | TiAlN | ● | ● | ● | ● | ● | ● | | | | | ● | ● | ● | ○ | ● | ○ | ● |  |
| | | TiAlN | ● | ● | ● | ● | ● | ● | | | | | ● | ● | ● | ○ | ● | ○ | ● | |
| 429295 | Vollhartmetall Fräser Solid carbide end mill tvrdokovová fréza | - | | | | | | ● | ● | ● | ● | | ● | ● | | ○ | | | |  |
| | | AluPower Diamond | | | | | | | | | | | | | | | | | | |
| 429300 | Vollhartmetall HSC Schruppschicht Fräser Solid carbide HSC roughing/finishing end mill tvrdokovová HSC hrubohladící fréza | - | | | | | | ● | ● | ● | ● | | ● | ● | ○ | ○ | | | |  |
| | | AluPower Diamond | | | | | | | | | | | | | | | | | | |
| 429305 | Vollhartmetall HSC Schruppschicht-Fräser Solid carbide HSC roughing/finishing end mill tvrdokovová HSC hrubohladící fréza | AluSpecial | | | | | | ● | ● | | | | | ● | ○ | ○ | ○ | | |  |
| | | Diamond | | | | | | | | | | | | | | | | | | |
| 429310 | Vollhartmetall HSC Schruppschicht-Fräser Solid carbide HSC roughing/finishing end mill tvrdokovová HSC hrubohladící fréza | AluSpecial | | | | | | ● | ● | | | | | ● | ○ | ○ | ○ | | |  |
| | | Diamond | | | | | | | | | | | | | | | | | | |
| 429315 | Vollhartmetall HPC Schruppschicht-Fräser Solid carbide HPC roughing/finishing end mill tvrdokovová HPC hrubohladící fréza | - | ● | ● | | | ● | | | | ● | ● | ● | ○ | ○ | | | | |  |
| | | TiAlN | ● | ● | | | ● | | | | ● | ● | ● | ○ | ○ | | | | | |
| 429320 | Vollhartmetall HPC Schruppschicht-Fräser Solid carbide HPC roughing/finishing end mill tvrdokovová HPC hrubohladící fréza | - | ● | ● | | | ● | | | | ● | ● | ● | ○ | ○ | | | | |  |
| | | TiAlN | ● | ● | | | ● | | | | ● | ● | ● | ○ | ○ | | | | | |
| 429325 | Vollhartmetall Schruppschicht-Fräser Solid carbide roughing/finishing end mill tvrdokovová hrubohladící fréza | TiAlN | ● | ● | ● | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | | | ● |  |
| | | TiAlN | ● | ● | ● | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | | | ● | |
| 429330 | Vollhartmetall MTC Schruppschicht-Fräser Solid carbide MTC roughing/finishing end mill tvrdokovová MTC hrubohladící fréza | TiAlN | ● | ● | ● | | ● | ● | | | | | ● | ● | ● | ○ | ○ | | ● |  |
| | | TiAlN | ● | ● | ● | | ● | ● | | | | | ● | ● | ● | ○ | ○ | | ● | |









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| Katalog-Nr. No. číslo | Bezeichnung specification označení | Beschichtung coating povlac | Stahl steel ocel | | | gehärteter Stahl hardened steel kalená ocel | | | INOX | GG(G) | NE-Werkstoffe non-ferrous materials neželezné mat. | | | | hochwarmfest high temperature výsoka tepelná odolnost | | Emulsion | | trocken dry na suchu | Luft air vzduch | universal | Bild image schéma | |
|-----------------------------|--|-----------------------------------|-------------------------|--------------------------|--------------------------|---|----------|----------|------|-------|--|----|----|--------|---|----|----------|------------------|----------------------|-----------------|-----------|---|---|
| | | | < 850 N/mm ² | < 1100 N/mm ² | < 1400 N/mm ² | < 55 HRC | < 60 HRC | < 67 HRC | | | Al | Cu | Mg | GFK/PE | Graphit | Ni | Ti | Stahl steel ocel | | | | | max. |
| | Kennzeichnung color code označení | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | |
| 429335 | Vollhartmetall MTC Schruppschlicht-Fräser Solid carbide MTC roughing/finishing end mill tvrdokovová MTC hrubohladící fréza | TiAIN | ● | ● | ● | | | | ● | ● | | | | | | | | ● | ○ | ○ | ● |  | |
| 429340 | VHM MTC Schruppschlicht-Fräser bis 55 HRC mit IK SC MTC roughing/finishing end mill up to 55 HRC,inter.cooling tvrdokovová MTC hrubohladící fréza s vnit.chlazením do 55 HRC | TiAIN | ● | ● | ● | ● | | | ● | ● | | | | | | | | ● | ○ | ○ | ● |  | |
| 429345 | Vollhartmetall MTC Schruppschlicht-Fräser-INOX Solid carbide MTC roughing/finishing end mill-INOX tvrdokovová MTC hrubohladící fréza-INOX | TiAIN | ● | | | | | ● | | | | | | | | | | ● | ○ | ○ | |  | |
| 429350 | VHM HSC-Hochgeschwindigkeitsfräser bis 67 HRC SC HSC high speed milling cutter up to 67 HRC tvrdokovová HSC-vysokorychlostní fréza do 67 HRC | AlTiNBlue | | ● | ● | ● | ● | | | | | | | | | | | ○ | ○ | ● | ● |  | |
| | | AlTiNFire | | ● | ● | ● | ● | | | | | | | | | | | | ○ | ○ | ● | | ● |
| 429355 | VHM HSC-Hochgeschwindigkeitsfräser bis 67 HRC SC HSC high speed milling cutter up to 67 HRC tvrdokovová HSC-vysokorychlostní fréza do 67 HRC | AlTiNBlue | | ● | ● | ● | ● | | | | | | | | | | | | ○ | ○ | ● | ● |  |
| | | AlTiNFire | | ● | ● | ● | ● | | | | | | | | | | | | | ○ | ○ | ● | |
| 429360 | VHM HSC-Hochgeschwindigkeitsfräser bis 67 HRC Solid carbide HSC high speed milling cutter up to 67 HRC tvrdokovová HSC-vysokorychlostní fréza do 67 HRC | AlTiNBlue | ● | ● | ● | ● | ● | ● | ● | ● | | | | ● | ● | ● | ○ | ○ | ● | ● | ● |  | |
| | | AlTiNFire | ● | ● | ● | ● | ● | ● | ● | ● | | | | ● | ● | ● | ○ | ○ | ● | ● | ● | | ● |
| 429365 | Vollhartmetall HSC-Hochgeschwindigkeitsfräser Typ N Solid carbide HSC high speed milling cutter type N tvrdokovová HSC-vysokorychlostní fréza typ N | TiAIN | | ● | ● | | | | ● | ● | | | | | | | | ● | ● | ○ | ○ | ● |  |
| | | - | ● | | | | | | | ● | ● | ● | | | | | | | ● | ○ | ○ | | |
| 429370 | Vollhartmetall HSC-Hochgeschwindigkeitsfräser Solid carbide HSC high speed milling cutter tvrdokovová HSC-vysokorychlostní fréza | - | | ● | | | | | | ● | ● | ● | | | | | | | ● | ○ | ○ |  | |
| | | AluSpecial | | | | | | | | | ● | ● | | | | | | | | ● | ○ | | ○ |
| 429375 | Vollhartmetall HSC-Hochgeschwindigkeitsfräser Solid carbide HSC high speed milling cutter tvrdokovová HSC-vysokorychlostní fréza | - | | ● | | | | | | ● | ● | ● | | | | | | | ● | ○ | ○ |  | |
| | | AluSpecial | | | | | | | | | ● | ● | | | | | | | | ● | ○ | | ○ |
| 429380 | VHM HSC-Hochgeschwindigkeitsfräser bis 55 HRC Solid carbide HSC high speed milling cutter up to 55 HRC tvrdokovová HSC-vysokorychlostní fréza do 55 HRC | TiAIN | ● | ● | ● | ● | | | ● | ● | ● | | | ● | ● | ● | ○ | ○ | ● | ○ | ● |  | |
| 429385 | VHM HSC-Hochgeschwindigkeitsfräser bis 55 HRC Solid carbide HSC high speed milling cutter up to 55 HRC tvrdokovová HSC-vysokorychlostní fréza do 55 HRC | TiAIN | ● | ● | ● | ● | | | ● | ● | ● | | | ● | ● | ● | ○ | ○ | ● | ○ | ● |  | |

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| Katalog-Nr. No. číslo | Bezeichnung specification označení | Beschichtung coating povlak | Stahl steel ocel | | | gehärteter Stahl hardened steel kalená ocel | | | INOX | GG(G) | NE-Werkstoffe non-ferrous materials neželezné mat. | | | | hochwarmfest high temperature výsoka tepelná odolnost | | Emulsion | | trocken / dry na suchu | Luft / air vzduch | universal | Bild image schéma | | |
|--|---|-----------------------------------|-------------------------|--------------------------|--------------------------|---|----------|----------|------|-------|--|----|----|--------|---|----|----------|------------------|---------------------------|----------------------|-----------|-------------------------|---|---|
| | | | < 850 N/mm ² | < 1100 N/mm ² | < 1400 N/mm ² | < 55 HRC | < 60 HRC | < 67 HRC | | | Al | Cu | Mg | GFK/PE | Graphit | Ni | Ti | Stahl steel ocel | | | | | max. | min. |
| Kennzeichnung color code označení | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | |
| 429390 | VHM HSC-Hochgeschwindigkeitsfräser bis 55 HRC Solid carbide HSC high speed milling cutter up to 55 HRC tvrdokovová HSC-vysokorychlostní fréza do 55 HRC | TiAlN | ● | ● | | | | ● | | | ● | | | | ● | ● | | ○ | ○ | ● | ○ | ● |  | |
| 429395 | Vollhartmetall HSC Duplofräser bis 55 HRC Solid carbide HSC high speed milling cutter up to 55 HRC tvrdokovová HSC duplofréza do 55 HRC | TiAlN | ● | ● | ● | ● | | | ● | ● | | | | | | ● | ● | ● | | | ● | ○ | ● |  |
| 429400 | VHM Torus HSC-Hochgeschwindigkeitsfräser Solid carbide HSC torus end mill tvrdokovová Torus HSC vysokorychlostní fréza | - | ● | ● | | | | | ● | ● | ● | ● | ● | | | | | | | ● | ● | ● | ● |  |
| | | TiAlN | ● | ● | ● | ● | | | ● | ● | ● | ● | | | ● | ● | ● | | | | ● | ● | ● | ● |
| 429405 | VHM HSC 2-Schneiden-Kugelfräser bis 55 HRC Solid carbide 2-flute HSC ball end mill up to 55 HRC tvrdokovová HSC 2-břitá kulová fréza do 55 HRC | - | ● | ● | | | | | ● | ● | | | | ● | ● | | | | | ● | ● | ● | ● |  |
| | | TiAlN | ● | ● | ● | ● | | | ● | ● | | | | ● | ● | ● | | | | | ● | ● | ● | ● |
| 429410 | Vollhartmetall HSC Kugelfräser Solid carbide HSC ball end mill tvrdokovová HSC kulová fréza | TiAlN | ● | ● | ● | | | | ● | ● | | | | ● | ● | ● | | | ● | ○ | ● | | ● |  |
| 429415 | Vollhartmetall Mini-Radiusfräser bis 55 HRC Solid carbide miniature ball nose end mill up to 55 HRC tvrdokovová mini radiusová fréza do 55 HRC | - | ● | ● | ● | | | | ● | ● | | | | ● | ● | ● | | | ○ | ○ | ● | ○ | ● |  |
| | | TiAlN | ● | ● | ● | ● | | | ● | ● | ● | | | | ● | ● | ● | | | ○ | ○ | ● | ○ | ● |
| 429420 | Vollhartmetall Mini-Radiusfräser bis 55 HRC Solid carbide miniature ball nose end mill up to 55 HRC tvrdokovová mini radiusová fréza do 55 HRC | - | ● | ● | ● | | | | ● | ● | | | | ● | ● | ● | | | ○ | ○ | ● | ○ | ● |  |
| | | TiAlN | ● | ● | ● | ● | | | ● | ● | ● | | | | ● | ● | ● | | | ○ | ○ | ● | ○ | ● |
| 429425 | Vollhartmetall Radiusfräser bis 55 HRC Solid carbide ball nose end mill up to 55 HRC tvrdokovová radiusová fréza do 55 HRC | - | ● | ● | ● | | | | ● | ● | | | | ● | ● | ● | | | ○ | ○ | ● | ○ | ● |  |
| | | TiAlN | ● | ● | ● | ● | | | ● | ● | ● | | | | ● | ● | ● | | | ○ | ○ | ● | ○ | ● |
| 429430 | Vollhartmetall Mini-Radiusfräser bis 67 HRC SC miniature ball nose end mill up to 67 HRC tvrdokovová mini radiusová fréza do 67 HRC | AlTiNBlue | ● | ● | ● | ● | ● | | | | | | | | | | | | ○ | ● | ● | ● | ● |  |
| | | AlTiNFire | ● | ● | ● | ● | ● | | | | | | | | | | | | | ○ | ● | ● | ● | ● |
| 429435 | Vollhartmetall Mini-Radiusfräser bis 67 HRC SC miniature ball nose end mill up to 67 HRC tvrdokovová mini radiusová fréza do 67 HRC | AlTiNBlue | ● | ● | ● | ● | ● | | | | | | | | | | | | ○ | ● | ● | ● | ● |  |
| | | AlTiNFire | ● | ● | ● | ● | ● | | | | | | | | | | | | | ○ | ● | ● | ● | ● |
| 429440 | Vollhartmetall Radiusfräser bis 67 HRC SC ball nose end mill up to 67 HRC tvrdokovová radiusová fréza do 67 HRC | AlTiNBlue | ● | ● | ● | ● | ● | | | | | | | | | | | | ○ | ● | ● | ● | ● |  |
| | | AlTiNFire | ● | ● | ● | ● | ● | | | | | | | | | | | | | ○ | ● | ● | ● | ● |

Inhaltsverzeichnis content adresář

| Katalog-Nr. No. číslo | Bezeichnung specification označení | Beschichtung coating povlac | Stahl steel ocel | | gehärteter Stahl hardened steel kalená ocel | | | INOX | GG(G) | NE-Werkstoffe non-ferrous materials neželezné mat. | | | | hochwarmfest high temperature výsoka tepelná odolnost | | Emulsion | | trocken / dry na suchu | Luft / air vzduch | universal | Bild image schéma |
|-----------------------------|---|-----------------------------------|-------------------------|--------------------------|---|----------|----------|------|-------|--|----|----|----|---|---------|----------|----|------------------------|-------------------|-----------|---|
| | | | < 850 N/mm ² | < 1100 N/mm ² | < 1400 N/mm ² | < 55 HRC | < 60 HRC | | | < 67 HRC | Al | Cu | Mg | GFK/PE | Graphit | Ni | Ti | | | | |
| | Kennzeichnung color code označení | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ● | ● | ○ | |
| 429445 | Vollhartmetall Radiusfräser bis 67HRC SC ball nose end mill up to 67 HRC tvrdokovová radiusová fréza do 67 HRC | AlTiNBlue | ● | ● | ● | ● | ● | | | | | | | | | ○ | ○ | ● | ● | |  |
| | | AlTiNFire | ● | ● | ● | ● | ● | | | | | | | | | | ○ | ○ | ● | ● | |
| 429450 | Vollhartmetall Radiusfräser bis 67 HRC SC ball nose end mill up to 67 HRC tvrdokovová radiusová fréza do 67 HRC | AlTiNBlue | ● | ● | ● | ● | ● | | | | | | | | | ○ | ○ | ● | ● | |  |
| | | AlTiNFire | ● | ● | ● | ● | ● | | | | | | | | | | ○ | ○ | ● | ● | |
| 429455 | Vollhartmetall Radiusfräser Solid carbide ball nose end mill tvrdokovová radiusová fréza | - | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ○ | ○ | ● |  |
| | | TiAlN | ● | ● | ● | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ○ | ○ | ● | |
| 429460 | Vollhartmetall Radiusfräser Solid carbide ball nose end mill tvrdokovová radiusová fréza | - | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ○ | ○ | ● |  |
| | | TiAlN | ● | ● | ● | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | ○ | ○ | ● | |
| 429465 | Vollhartmetall Radiusfräser Solid carbide ball nose end mill tvrdokovová radiusová fréza | - | ● | ● | ● | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | | | ● |  |
| | | TiAlN | ● | ● | ● | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | | | ● | |
| 429470 | Vollhartmetall Radiusfräser Solid carbide ball nose end mill tvrdokovová radiusová fréza | - | ● | ● | ● | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | | | ● |  |
| | | TiAlN | ● | ● | ● | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | | | ● | |
| 429475 | Vollhartmetall Radiusfräser Solid carbide ball nose end mill tvrdokovová radiusová fréza | - | ● | ● | ● | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | | | ● |  |
| | | TiAlN | ● | ● | ● | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | | | ● | |
| 429480 | Vollhartmetall Radiusfräser Solid carbide ball nose end mill tvrdokovová radiusová fréza | - | ● | ● | ● | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | | | ● |  |
| | | TiAlN | ● | ● | ● | | | ● | ● | ● | ● | ● | ● | ● | ● | ○ | ○ | | | ● | |