## WELCOME TO

## Durga Engineering Corporation

We durga engineering corporation established in 1985 approach you as one of the leading manufacturers of HSS slitting saws, circular knives, metal slotting cutters, bore type milling cutters etc.

## Mfrs.of: All Type Of Gear Hov Cutters \& Spl. Hobs



## About Us

## Durga Engineering Corporation

We are a renowned brand in the field of HSS slitting saws and knives, trusted by industries worldwide. With a strong presence in India through our network of dealers and traders, we have also gained recognition from machine manufacturers and government enterprises. Our brand value is consistently growing. In recent years, we have expanded our operations to international markets, supplying our high-quality products to the USA, China, Russia, Italy, the European Union, the UAE, Africa, Sri Lanka, Bangladesh, Nepal, and Germany.

Our HSS slitting saws and knives are known for their exceptional quality and precision. They are widely sought after in various industries due to their ability to cut and slit with accuracy, even in challenging conditions. Our tools can withstand high temperatures when cutting hard stainless steel and offer high cutting resistance with minimal friction. We are committed to delivering excellence and meeting the diverse needs of our customers, ensuring their productivity and satisfaction.

## Slitting saw DIN 1837 A

A


Materials: steel, cast, non-ferrous metals, plasticApplication: recommended for slotting fragile and hard materials which make short chips, suitable for cutting thin-walled profilesMachine: metal processing machinesCharacteristic:

- Circular saw blades for metal with fine teeth
- hollow ground with a flange, standardly produced without driving pin holes and without a keyway
- tooth form A (by request AW)
- cutting edge is very sharp
- chip clearance is reduced and it can't remove longer chips away from cutting area efficiently
- tolerances and hollow ground according DIN 1840

High quality slitting saw 1837 A, designed especialy for high performance. Slitting saws produced in Europe - Czech Republic. Circular saw blades for metal DIN 1837 A with fine teeth and A tooth form are recommended for slotting fragile and hard materials. A tooth form is suitable especially for thin saw blades with tooth pitch from $0,8 \mathrm{~mm}$ to $3,0 \mathrm{~mm}$. Cutting edge is very sharp. Chip clearance is reduced and it cannot remove longer chips away from the cutting area efficiently. In standard modification the slitting saw blades are made with hollow ground and with a flange. They can be ordered with driving pin holes or with a keyway and AW tooth form (the tooth form A with alternate chamfering).

HSS - circular saw blades for metal DIN 1837A - fine teeth

| D (mm) | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 | 160 | 200 | 250 | 315 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| dir7 (mm) | 5 | 8 | 8 | 10 | 13 | 16 | 22 | 22 | 22 | 32 | 32 | 32 | 40 |
| B (mm) | number of teeth |  |  |  |  |  |  |  |  |  |  |  |  |
| 0,20 mm | 80 | 80 | 100 | 128 | 128 |  |  |  |  |  |  |  |  |
| 0,25 mm | 64 | 80 | 100 | 100 | 128 | 160 |  |  |  |  |  |  |  |
| 0,30 mm | 64 | 80 | 80 | 100 | 128 | 128 | 160 |  |  |  |  |  |  |
| 0,40 mm | 64 | 64 | 80 | 100 | 100 | 128 | 160 |  |  |  |  |  |  |
| 0,50 mm | 48 | 64 | 80 | 80 | 100 | 128 | 128 | 160 |  |  |  |  |  |
| 0,60 mm | 48 | 64 | 64 | 80 | 100 | 100 | 128 | 160 | 160 |  |  |  |  |
| 0,80 mm | 48 | 48 | 64 | 80 | 80 | 100 | 128 | 128 | 160 |  |  |  |  |
| 1,00 mm | 40 | 48 | 64 | 64 | 80 | 100 | 100 | 128 | 160 | 160 | 200 |  |  |
| 1,20 mm | 40 | 48 | 48 | 64 | 80 | 80 | 100 | 128 | 128 | 160 | 200 |  |  |
| $1,60 \mathrm{~mm}$ | 40 | 40 | 48 | 64 | 64 | 80 | 100 | 100 | 128 | 160 | 200 | 200 |  |
| 2,00 mm | 32 | 40 | 48 | 48 | 64 | 80 | 80 | 100 | 100 | 128 | 160 | 200 |  |
| 2,50 mm | 32 | 40 | 40 | 48 | 64 | 64 | 80 | 100 | 100 | 128 | 160 | 160 | 200 |
| $3,00 \mathrm{~mm}$ | 32 | 32 | 40 | 48 | 48 | 64 | 80 | 80 | 100 | 128 | 160 | 160 | 200 |
| $4,00 \mathrm{~mm}$ | 24 | 32 | 40 | 40 | 48 | 64 | 64 | 80 | 100 | 100 | 128 | 160 | 160 |
| 5,00 mm | 24 | 32 | 32 | 40 | 48 | 48 | 64 | 80 | 80 | 100 | 128 | 128 | 160 |
| 6,00 mm | 24 | 24 | 32 | 40 | 40 | 48 | 64 | 64 | 80 | 100 | 128 | 128 | 160 |

Small Slitting saws in imperial sizes according norms ASA teeth AFTe i.e. with fine pitch as to DIN 1837 Toothform A. Used for shallow cutting and cut-off operations. Hollow ground on both sides to prevent binding.

| D (mm) | $3 / 4$ | $\mathbf{1}^{\prime}$ | $11 / 4$ | $11 / 2$ | $\mathbf{2}^{\prime \prime}$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| dH7 (mm) | $1 / 4$ | $1 / 4$ | $3 / 8$ | $3 / 8$ | $3 / 8$ |
| B (mm) | number of teeth |  |  |  |  |
| 0,006 | 40 | 50 | 60 | 72 | 100 |
| 0,008 | 40 | 50 | 60 | 72 | 100 |


| 0,1 | 40 | 50 | 60 | 72 | 100 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 0,01 | 40 | 50 | 60 | 72 | 100 |
| 0,012 | 40 | 50 | 60 | 72 | 100 |
| 1/64 | 40 | 50 | 60 | 72 | 100 |
| 0,02 | 40 | 50 | 60 | 72 | 100 |
| 0,025 | 40 | 50 | 60 | 72 | 100 |
| 1/32 | 40 | 50 | 60 | 72 | 100 |
| 3/64 | 40 | 50 | 60 | 72 | 100 |
| 1/1 6 | 40 | 50 | 60 | 72 | 100 |
| 5/64 | 40 | 50 | 60 | 72 | 100 |
| 3/3 2 | 40 | 50 | 60 | 72 | 100 |
| 7/64 | 40 | 50 | 60 | 72 | 100 |
| 1/8 | 40 | 50 | 60 | 72 | 100 |
| 5/3 2 |  |  |  | 72 | 100 |
| 3/1 6 |  |  |  | 72 | 100 |
| 7/3 2 |  |  |  |  | 100 |
| 1/4 |  |  |  |  | 100 |

Small Slitting saws in imperial sizes according norms ASA teeth AFTe i.e. with fine pitch as to DIN 1837 Toothform A. Used for shallow cutting and cut-off operations. Hollow ground on both sides to prevent binding.

| D (mm) | $\begin{aligned} & 2 \\ & 1 / 2 \end{aligned}$ | 3' | $\begin{aligned} & 3 \\ & 1 / 2 \end{aligned}$ | 4 | 4 | 4 $1 / 2^{\prime}$ | $\begin{aligned} & 4 \\ & 1 / 2^{\prime} \end{aligned}$ | $5{ }^{\prime}$ | 6' | $6^{\prime}$ | 7' | 7' | 8' | 8' | $10^{\prime}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \mathrm{dH} 7 \\ & (\mathrm{~mm}) \end{aligned}$ | 1' | 1' | 1' | 1' | 1' | $\begin{aligned} & 1 \\ & 1 / 4^{\prime} \end{aligned}$ | 1' | $1{ }^{\prime}$ | $\begin{aligned} & 1 \\ & 1 / 4^{\prime} \end{aligned}$ | $1$ $1 / 4^{\prime}$ | $1{ }^{\prime}$ | $\begin{aligned} & 1 \\ & 1 / 4^{\prime} \end{aligned}$ | $1{ }^{\prime \prime}$ | $\begin{aligned} & 1 \\ & 1 / 4^{\prime} \end{aligned}$ | 1 ' |
| B (mm) | number of teeth |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1/64 | 62 | 74 | 100 |  | 100 |  |  |  |  |  |  |  |  |  |  |
| 1/32 | 62 | 74 | 88 | 100 | 100 |  |  | 124 | 150 |  |  |  |  |  |  |
| 3/64 | 62 | 74 |  | 100 |  |  |  | 124 | 150 |  |  |  |  |  |  |
| 1/16 | 62 | 74 | 88 | 100 | 100 |  |  | 124 | 150 |  | 176 | 176 | 200 |  | 250 |


| 5/64 |  | 74 | 100 |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $3 / 32$ | 62 | 74 | 100 |  |  | 112 | 124 | 150 |  |  |  |  |  |
| 7/64 |  |  | 100 |  |  |  |  |  |  |  |  |  |  |
| 1/8 | 62 | 74 | 100 | 100 | 112 |  | 124 | 150 | 150 |  | 200 | 200 | 250 |
| 5/32 | 62 | 74 | 100 |  |  |  | 124 |  |  |  |  |  |  |
| 3/1 6 |  | 74 | 100 |  |  |  | 124 | 150 | 150 |  |  |  |  |
| 7/32 |  | 74 |  |  |  |  |  |  |  | 176 |  |  |  |
| 1/4 | 62 | 74 | 100 |  |  |  | 124 | 150 | 150 |  |  |  |  |

Slitting saws range is $\varnothing 20 \mathrm{~mm}-\varnothing 315 \mathrm{~mm}$ with thicknesses ranging $0,2 \mathrm{~mm}-6$ mm in variable designs with tooth forms: A - B - BW. All standard saws are available ground only but they are also available with VAPO or P.V.D. (Physical Vapour Deposition) coated execution. The above-mentioned examples of slitting saws are only a small overview of our production posibilities. We are ready to produce also different tools according to your documentation like prismatic cutters, gear milling cutters, profile cutters, shell end mills cutters, side and face milling cutters, halfcircle milling cutters convex, half circle milling cutters concave, corner rounding milling cutters, single angle milling cutters, double angle milling cutters , HSS Side Chip Clearance Saws straight teeth, Slitting saw, M2 Side Chip Clearance Saws staggered tooth, HSS Side and Face Cutters straight teeth, HSS Side and Face Cutters staggered teeth.

## Slitting saw DIN 1838 B



Materials: steel, cast, non-ferrous metalsApplication: recommended for slotting and cutting materials which make longer chips, suitable for cutting thick-walled profiles (wall over 2 mm )Machine: metal processing machinesCharacteristic:

- HSS circular slitting saw blades with rough teeth
- hollow ground with a flange, standardly produced without driving pin holes and without a keyway
- tooth form B (by request BW)
- compared to type A chip clearance is reduced, which allows to remove chips away from cutting area efficiently
- tolerances and hollow ground according DIN 1840

High quality slitting saw DIN 1838 B, designed especially for high performance. Slitting saws produced in Europe - Czech Republic.Circular saw blades for metal DIN 1838 B with rough teeth and teeth form B are recommended especially for cutting-off steels. In comparison with A tooth form they have much bigger chip clearance and they enable bigger cut. In standard modification the saw blades are made with hollow ground and with a flange. They can be ordered with BW tooth form (B tooth form with alternate chamfering).

HSS - circular saw blades for metal DIN 1837A - fine teeth

| $\mathrm{D}(\mathrm{mm})$ | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 | 160 | 200 | 250 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| dH7 (mm) | 5 | 8 | 8 | 10 | 13 | 16 | 22 | 22 | 22 | 32 | 32 | 32 |
| $\mathrm{~B}(\mathrm{~mm})$ | number of teeth | 40 |  |  |  |  |  |  |  |  |  |  |


| 0,50 mm | 48 | 64 | 64 | 80 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0,60 mm | 48 | 48 | 64 | 80 | 80 |  |  |  |  |
| 0,80 mm | 40 | 48 | 64 | 64 | 80 |  |  |  |  |
| 1,00 mm | 40 | 48 | 48 | 64 | 80 | 80 |  |  |  |
| 1,20 mm | 40 | 40 | 48 | 64 | 80 | 100 |  |  |  |
| 1,60 mm | 32 | 40 | 48 | 48 | 64 | 80 | 80 | 100 |  |
| 2,00 mm | 32 | 40 | 40 | 48 | 64 | 64 | 80 | 100 |  |
| 2,50 mm | 32 | 32 | 40 | 48 | 64 | 64 | 80 | 80 | 100 |
| 3,00 mm | 24 | 32 | 40 | 40 | 48 | 64 | 64 | 80 | 100 |
| 4,00 mm | 24 | 32 | 32 | 40 | 48 | 48 | 64 | 80 | 80 |
| 5,00 mm | 24 | 24 | 32 | 40 | 40 | 48 | 64 | 64 | 80 |
| 6,00 mm | 20 | 24 | 32 | 32 | 40 | 48 | 48 | 64 | 80 |

HSS slitting saws coarse with Coarse Pitch as to DIN 1838 Toothform B. Used for medium deep cutting and cut-off operations. Hollow ground on both sides to prevent binding.

| $\begin{aligned} & \mathrm{D} \\ & (\mathrm{~mm}) \end{aligned}$ | $\begin{aligned} & 2 \\ & 1 / 2 \end{aligned}$ | $3{ }^{\prime}$ | $\begin{aligned} & 3 \\ & 1 / 2 \end{aligned}$ | 4 | 4 | $\begin{aligned} & 4 \\ & 1 / 2^{\prime} \end{aligned}$ | $5{ }^{\prime}$ | 5 | $6^{\circ}$ | $6^{*}$ | $7{ }^{\prime}$ | $7{ }^{\prime}$ | $8{ }^{\prime}$ | $8^{\prime}$ | 10' | $10^{\circ}$ | 12' | 12' |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \mathrm{dH7} \\ & (\mathrm{~mm}) \end{aligned}$ | $1{ }^{\prime}$ | $1^{\prime}$ | $1{ }^{\prime}$ | $1{ }^{\prime}$ | $\begin{aligned} & 1 \\ & 1 / 4^{\prime} \end{aligned}$ | $1{ }^{1}$ | $1{ }^{\prime}$ | $1{ }^{\prime}$ | $\begin{aligned} & 1 \\ & 1 / 4^{\prime} \end{aligned}$ | $\begin{aligned} & 1 \\ & 1 / 4 \end{aligned}$ | $1^{\prime}$ | $\begin{aligned} & 1 \\ & 1 / 4^{\prime} \end{aligned}$ | $1^{\circ}$ | $\begin{aligned} & 1 \\ & 1 / 4 \end{aligned}$ | $1^{\prime}$ | $\begin{aligned} & 1 \\ & 1 / 4^{\prime} \end{aligned}$ | $1^{\prime}$ | $\begin{aligned} & 1 \\ & 1 / 4^{\prime} \end{aligned}$ |
| $\begin{aligned} & B \\ & (\mathrm{~mm}) \end{aligned}$ | number of teeth |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1/64 | 26 | 30 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1/32 | 26 | 30 | 32 | 36 |  | 38 | 40 |  | 44 | 44 |  |  |  |  |  |  |  |  |
| 3/64 | 26 | 30 | 32 | 36 |  | 38 | 40 |  | 44 |  |  |  |  |  |  |  |  |  |


| 1/16 | 26 | 30 | 32 | 36 | 36 | 38 | 40 | 40 | 44 | 44 | 48 |  | 52 | 52 | 62 | 62 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5/6 4 | 26 | 30 | 32 | 36 | 36 |  | 40 |  | 44 |  | 48 | 48 | 52 | 52 | 62 |  |  |  |
| 3/32 | 26 | 30 | 32 | 36 |  | 38 | 40 | 40 | 44 | 44 | 48 | 48 | 52 | 52 | 62 | 62 |  |  |
| 7/64 | 26 | 30 | 32 | 36 |  |  |  |  | 44 |  |  |  |  |  |  |  |  |  |
| 1/8 | 26 | 30 | 32 | 36 | 36 |  | 40 | 40 | 44 | 44 | 48 | 48 | 52 | 52 | 62 | 62 | 70 | 70 |
| 5/32 |  | 30 | 32 | 36 |  |  | 40 |  | 44 | 44 | 48 |  | 52 |  | 62 |  |  |  |
| 3/1 6 | 26 | 30 | 32 | 36 |  |  | 40 |  | 44 | 44 | 48 |  | 52 | 52 | 62 |  | 70 |  |
| 7/3 2 |  | 30 | 32 | 36 | 36 |  | 40 |  | 44 |  | 48 |  | 52 |  | 62 |  |  |  |
| 1/4 | 26 | 30 | 32 | 36 |  |  | 40 |  | 44 | 44 |  | 48 | 52 | 52 | 62 |  |  |  |

## Slitting saw DIN 1838 C



Materials: steel, cast, non-ferrous metals, plasticApplication: recommended for slotting and cutting materials which make longer chips, suitable for cutting thickwalled profiles (wall over 2 mm )Machine: metal processing machines Characteristic:

- HSS circular saw blades with rough teeth
- hollow ground with a flange, standardly produced without driving pin holes and without a keyway
- C tooth form consists of roughing teeth and finishing teeth
- the roughing tooth is chamfered from both sides and in its cutting part it is $0,15-0,30 \mathrm{~mm}$ wider than the finishing one; the chips are cut into three parts and that's why their chip removing is much more efficient
- hollow ground according DIN 1840

High quality slitting saw 1838 C, designed especialy for high performance. Slitting saws produced in Europe - Czech Republic.The tooth consists of roughing tooth and finishing tooth. The roughing tooth is chamfered from both sides and in its cutting part is $0,15-0,30 \mathrm{~mm}$ bigger than the finishing one. Chips are cut into three parts and that's why their chip removing is much more efficient. Perfect breaking prevents from blocking cutting area and it avoids poor tool life or even tool breakage due to the tooth clogging. It is recommended for cutting solid materials.

HSS-circular saw blades for metal DIN 1838 C - course teeth

| D (mm) | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 | 160 | 200 | 250 | 315 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| dH7 (mm) | 5 | 8 | 8 | 10 | 13 | 16 | 22 | 22 | 22 | 32 | 32 | 32 | 40 |
| B (mm) | number of teeth |  |  |  |  |  |  |  |  |  |  |  |  |
| 1,00 mm | 40 | 48 | 48 | 64 | 80 | 80 |  |  |  |  |  |  |  |
| 1,20 mm | 40 | 40 | 48 | 64 | 64 | 80 | 100 |  |  |  |  |  |  |
| $1,60 \mathrm{~mm}$ | 32 | 40 | 48 | 48 | 64 | 80 | 80 | 100 |  |  |  |  |  |
| 2,00 mm | 32 | 40 | 40 | 48 | 64 | 64 | 80 | 100 |  |  |  |  |  |
| 2,50 mm | 32 | 32 | 40 | 48 | 64 | 64 | 80 | 80 | 100 |  |  |  |  |
| $3,00 \mathrm{~mm}$ | 24 | 32 | 40 | 40 | 48 | 64 | 64 | 80 | 100 |  |  |  |  |
| 4,00 mm | 24 | 32 | 32 | 40 | 48 | 48 | 64 | 80 | 80 |  |  |  |  |
| 5,00 mm | 24 | 24 | 32 | 40 | 40 | 48 | 64 | 64 | 80 |  |  |  |  |
| 6,00 mm | 20 | 24 | 32 | 32 | 40 | 48 | 48 | 64 | 80 |  |  |  |  |

HSS slitting saws coarse with Coarse Pitch as to DIN 1838 Toothform B. Used for medium deep cutting and cut-off operations. Hollow ground on both sides to prevent binding.

| D <br> (mm) | $2$ $1 / 2$ | $3^{*}$ | 3 $1 / 2$ | 4' | 4 | 4 $1 / 2^{\prime}$ | $5{ }^{\prime}$ | $5^{\prime}$ | $6^{\prime}$ | 6' | 7 | 7' | 8' | $8^{\prime}$ | $10^{*}$ | $10^{\circ}$ | $12^{\prime}$ | $12^{\prime}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| dH7 <br> (mm) | $1^{\prime}$ | $1{ }^{\prime}$ | $1^{\prime}$ | $1{ }^{\prime}$ | $\begin{aligned} & 1 \\ & 1 / 4^{\prime} \end{aligned}$ | 1' | $1{ }^{\prime}$ | $1^{\prime \prime}$ | $\begin{aligned} & 1 \\ & 1 / 4^{\prime} \end{aligned}$ | $\begin{aligned} & 1 \\ & 1 / 4 \end{aligned}$ | $1{ }^{\prime}$ | $\begin{aligned} & 1 \\ & 1 / 4^{\prime} \end{aligned}$ | $1{ }^{\prime}$ | $\begin{aligned} & 1 \\ & 1 / 4^{\prime} \end{aligned}$ | $1{ }^{\prime}$ | $\begin{aligned} & 1 \\ & 1 / 4^{\prime} \end{aligned}$ | $1{ }^{\prime}$ | $\begin{aligned} & 1 \\ & 1 / 4^{\prime} \end{aligned}$ |
| B <br> (mm) | number of teeth |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1/64 | 26 | 30 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1/32 | 26 | 30 | 32 | 36 |  | 38 | 40 |  | 44 | 44 |  |  |  |  |  |  |  |  |
| 3/64 | 26 | 30 | 32 | 36 |  | 38 | 40 |  | 44 |  |  |  |  |  |  |  |  |  |
| 1/1 6 | 26 | 30 | 32 | 36 | 36 | 38 | 40 | 40 | 44 | 44 | 48 |  | 52 | 52 | 62 | 62 |  |  |
| 5/6 4 | 26 | 30 | 32 | 36 | 36 |  | 40 |  | 44 |  | 48 | 48 | 52 | 52 | 62 |  |  |  |
| $3 / 32$ | 26 | 30 | 32 | 36 |  | 38 | 40 | 40 | 44 | 44 | 48 | 48 | 52 | 52 | 62 | 62 |  |  |
| 7/64 | 26 | 30 | 32 | 36 |  |  |  |  | 44 |  |  |  |  |  |  |  |  |  |
| 1/8 | 26 | 30 | 32 | 36 | 36 |  | 40 | 40 | 44 | 44 | 48 | 48 | 52 | 52 | 62 | 62 | 70 | 70 |


| $5 / 32$ | 30 | 32 | 36 |  |  | 40 |  | 44 | 44 | 48 |  | 52 |  | 62 |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $3 / 16$ | 26 | 30 | 32 | 36 |  |  | 40 |  | 44 | 44 | 48 |  | 52 | 52 | 62 |  | 70 |
| $7 / 32$ |  | 30 | 32 | 36 | 36 |  | 40 |  | 44 |  | 48 |  | 52 |  | 62 |  |  |
| $1 / 4$ | 26 | 30 | 32 | 36 |  |  | 40 |  | 44 | 44 |  | 48 | 52 | 52 | 62 |  |  |

## HSS TUBE/Pipe Cutting Saws



For the tube-cutting machines GF and AXXAIR, circular saw blades manufactured of HSS/Dmo5 and primarily HSS/Emo5 (alloyed with cobalt) are appropriate. They work well for cutting tubes made of any material. For cutting stainless steel tubes, standard adjustment is made to the tooth geometry. They can be produced using teeth geometry for unalloyed steel, copper, brass, and aluminium. The hollow ground, flange, and tooth form BW are used to make the saw blades. Surface coating is not a standard alteration, however buying coating is an option.

Our slitting saws have thicknesses ranging from $0,2 \mathrm{~mm}$ to 10 mm and varied designs with the following tooth forms: $\mathrm{A}, \mathrm{B}$, and BW . Their range is 50 mm to 450 mm . Although all basic saws are readily available in VAPO or without any coating,

Saw Blade

| Pipe wall thickness |  | Saw blade Ø |  |
| :--- | :--- | :--- | :--- |
| $1.2-2.5 \mathrm{~mm}$ | $.047^{*}-.098^{*}$ | 63 mm | $2.480^{\prime \prime}$ |
| $1.5-6.0 \mathrm{~mm}$ | $.059^{*}-.236^{*}$ | 68 mm | $2.677^{\prime \prime}$ |
| $2.0-5.5 \mathrm{~mm}$ | $.079^{*}-.217^{*}$ | 63 mm | $2.480^{\prime \prime}$ |
| $2.5-7.0 \mathrm{~mm}$ | $.098^{*}-.276^{*}$ | 68 mm | $2.677^{\prime \prime}$ |
| $5.0-12.0 \mathrm{~mm}$ | $.197^{*}-.472^{*}$ | 80 mm | $2.953^{\prime \prime}$ |
| $6.0-15.0 \mathrm{~mm}$ | $.236^{*}-.591^{*}$ | 100 mm | $3.937^{\prime \prime}$ |
| $0.6-1.2 \mathrm{~mm}$ | $.024^{*}-.047^{*}$ | 63 mm | $2.480^{\prime \prime}$ |
| $1.0-1.6 \mathrm{~mm}$ | $.039^{*}-.063^{*}$ | 68 mm | $2.667^{\prime \prime}$ |


| $1.0-3.0 \mathrm{~mm}$ | . $039^{*}-.118^{*}$ | 63 mm | $2.480^{\prime \prime}$ |
| :---: | :---: | :---: | :---: |
| 1.2-2.5 mm | . $047^{*}-.098^{*}$ | 63 mm | 2.480" |
| $1.2-2.5 \mathrm{~mm}$ | .047* - .098* | 68 mm | $2.667^{\prime \prime}$ |
| $1.2-2.5 \mathrm{~mm}$ | .047* - .098* | 100 mm | $3.937^{\prime \prime}$ |
| $1.2-3.0 \mathrm{~mm}$ | .047* - .118* | 83 mm | $3.268^{\prime \prime}$ |
| $1.2-2.5 \mathrm{~mm}$ | .059* - .098* | 80 mm | $3.150{ }^{\prime \prime}$ |
| $2.5-5.5 \mathrm{~mm}$ | .098* - .217* | 63 mm | $2.480^{\prime \prime}$ |
| $2.5-5.5 \mathrm{~mm}$ | .098* - .217* | 100 mm | $3.937{ }^{\prime \prime}$ |
| $2.5-7.0 \mathrm{~mm}$ | .098* - .276* | 68 mm | $2.667^{\prime \prime}$ |
| $2.5-7.0 \mathrm{~mm}$ | .098* - .276* | 80 mm | $3.150{ }^{\prime \prime}$ |
| $6.0-10.0$ mm | $.236^{*}-.394^{*}$ | 80 mm | 2.953 ${ }^{\prime \prime}$ |
| $6.0-15.0 \mathrm{~mm}$ | . $236{ }^{*}-.591^{*}$ | 100 mm | $3.937^{\prime \prime}$ |
| $1.2-2.5 \mathrm{~mm}$ | .047* - .098* | 80 mm | 3.150 " |
| $1.2-2.5 \mathrm{~mm}$ | .047* - .098* | 63 mm | $2.480{ }^{\prime \prime}$ |
| $2.5-7.0 \mathrm{~mm}$ | .098 $-.276^{*}$ | 68 mm | $2.667^{\prime \prime}$ |
| $1.2-2.5 \mathrm{~mm}$ | .047* - .098* | 63 mm | $2.480{ }^{\prime \prime}$ |

Saw blades with additional pinhole

| Pipe wall thickness |  | Saw blade $\emptyset$ |  |  |
| :--- | :--- | :--- | :--- | :--- |
|  | $1.2-2.5 \mathrm{~mm}$ | $.047^{\prime \prime}-.098^{*}$ | 63 mm | $2.480^{\prime \prime}$ |
|  | $1.2-2.5 \mathrm{~mm}$ | $.047^{\prime \prime}-.098^{*}$ | 68 mm | $2.677^{\prime \prime}$ |
|  | $1.5-2.5 \mathrm{~mm}$ | $.059^{\prime \prime}-.098^{*}$ | 80 mm | $3.150^{\prime \prime}$ |
|  | $2.5-7.0 \mathrm{~mm}$ | $.098^{\prime \prime}-.276^{*}$ | 68 mm | $2.677^{\prime \prime}$ |

## HSS Screw Slotting cutters



HSS/Dmo5 circular saw blades are used to cut slots for the screw knobs. These saw blades have tooth type A and are taper ground without an undercut. Although ordering with VAPO or other PVD coatings is an option, the standard modification is without a surface coating.

| Circular saw blades for screw-slotting saws |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Diameter <br> (mm) | Central hole <br> (mm) | Thicknes/ Teeth N, , Tooth fomm BW |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 0,7 | 0,8 | 0,9 | 1,0 | 1,1 | 1,2 | 1,3 | 1,4 | 1,5 | 1,6 | 1,7 | 1,8 | 2.0 |
| 80 | 22 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 |
| 100 | 22 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| 125 | 22 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |

HSS screw slotting saws in imperial sizes according norms ASA teeth AFTe. Used mainly for slotting screw heads. They are hollow ground for shallow cuts. Not recommended for deep cuts

| D (mm) | $\mathbf{1 3 / 4}$ | $\mathbf{2 1 / 4}$ | $\mathbf{2 3 / 4}$ |
| :--- | :--- | :--- | :--- |
| dH7 (mm) | $\mathbf{5 / 8}$ | $\mathbf{5 / 8}$ | $\mathbf{1}^{\prime}$ |
| B (mm) | number of teeth |  |  |
| 0,006 | 90 | 60 | 72 |
| 0,008 | 90 | 60 | 72 |
| 0,001 | 90 | 60 | 72 |


| 0,008 | 90 | 60 | 72 |
| :---: | :---: | :---: | :---: |
| 0,001 | 90 | 60 | 72 |
| 0,012 | 90 | 60 | 72 |
| 0,014 | 90 | 60 | 72 |
| 0,016 | 90 | 60 | 72 |
| 0,018 | 90 | 60 | 72 |
| 0,02 | 90 | 60 | 72 |
| 0,023 | 90 | 60 | 72 |
| 0,025 | 90 | 60 | 72 |
| 0,028 | 90 | 60 | 72 |
| 0,032 | 90 | 60 | 72 |
| 0,035 | 90 | 60 | 72 |
| 0,036 |  |  | 72 |
| 0,04 | 90 | 60 | 72 |
| 0,045 | 90 | 60 | 72 |
| 0,051 | 90 | 60 | 72 |
| 0,057 | 90 | 60 | 72 |
| 0,064 | 90 | 60 | 72 |
| 0,072 |  |  | 72 |
| 0,075 | 90 | 60 | 72 |
| 0,081 | 90 | 60 | 72 |
| 0,091 | 90 | 60 | 72 |
| 0,102 | 90 | 60 | 72 |
| 0,114 | 90 | 60 | 72 |
| 0,128 |  |  | 72 |
| 0,144 |  |  | 72 |
| 0,162 |  |  | 72 |
| 0,182 |  |  |  |

## HSS PISTON RING CUTTERS



HSS steel grades M35 and M42 are used to make the saw blades. It is feasible to PVD coat.
The spring-loaded piston-to-cylinder wall seal is provided by the piston ring, an expandable and adjustable metal split ring (against the cylinder wall). This metal split piston ring, which normally comes in a set of several, fits around a piston (into a groove on the outer diameter of a piston) and closes the space between the piston and the cylinder wall to ensure a tight fit.
A primary purpose of a piston ringFor heat transfer from the piston to the cylinder, a piston ring's primary purpose is to ensure a tight fit (seal the combustion chamber) in the engine cylinders.

## DIAMETER AVAILABLE FROM 100 MM TO 150 MMIN THICKNESS FROM 1MM TO 2.5 MM

## SLITTERS AND SPACERS

The slitting knives are mostly used for cutting and packing machines for sheet metal plate, strip, leather, aluminium foil and films. High quality cutting tool steel $9 \mathrm{CrSi}, \mathrm{SKD}, \mathrm{SKH}, \mathrm{T} 10,6 \mathrm{CrW} 2 \mathrm{Si}, \mathrm{Cr} 12 \mathrm{MoV}, \mathrm{LD}, \mathrm{D} 2, \mathrm{H} 13$, and W 18 Cr 4 V is used to make the material. After a flawless vacuum heat treatment process, homogeneous hardness, and systematic precision machining. Making The slitting knives' characteristics include a smooth, sharp cut and resistance to edge wear. They are compatible with all types of slitting units.
The most crucial component of the cutting tool is the slitting knives, which need to be machined with extreme precision. With an ultra-precision flat grinding machine, an unique grinding technique, and stringent quality control, SPARKBLADES assure that all completed products meet thickness and parallelism tolerance standards.Knife holders, Stripper Rings\&Spacers, and other components are included in a complete rotary slitting system. The major purpose is to maintain the width of the slitting knives and to change the horizontal clearance between the top and bottom blades. The thickness is typically between 0.8 mm and 150 mm , and the hardness must be HRC45 or higher. Moreover, the spacers' thickness tolerance must be kept to a maximum of 0.005 millimetres. Inner and outer cylindrical surfaces have been processed to turn black. significantly enhance antirust performance
We can supply the following components:

- Rotary Slitter Knives
- Stripper Rings\&Spacers
- Knife holder


## CIRULAR KNIVES AND BLADES

## JOB OF THE MATEERIALS



Rubber, leather, paper, isolation materials and plastics, non-ferrous metals and steel.
Our rotary knives can be coated with PVD coatings (such as TIN, TICN, or TIALN) or with teflon depending on the many uses for which they are intended. Our circular knives are heat-treated to hardness $56-64$ HRC in standard modification. Our circular knives range in size from 20 mm to 600 mm (e.g. production of tinned vegetables or circular knives for cutting of deep-frozen products like fish, circular knives for meat etc.) These knives are round and made of stainless steel.
Due to the fact that these industrial knives are only produced upon request, it is crucial to include the following information in client queries or orders:
The circular knife's diameter

The circular knife's thickness, central bore diameter, driving pin hole diameter, number, and pitch, as well as the type of material that should be used for the blade's body, its cutting edge variant, its cutting geometry, its cutting edge length, and the material that it should be used to cut with.

The typical modification does not disrupt the industrial knife's cutting edge. It can have teeth like those seen on HSS circular saw blades for metal cutting, or it can have very particular tooth shapes. It is possible to create circular knives without teeth, as well as circular knives with grooves or ripples on the cutting edge. Depending on the type of material that the industrial knife is cutting, these blades' cutting edges change. The specific edge variations we make for our industrial knives are displayed in the following table.

| A | industrial knives sided blade with undercut |
| :--- | :--- |
| B | square edge |
| C | single bevel blunt |
| D | single bevel sharp |
| E | double single bevel |
| F | double bevel blunt |
| G | double bevel sharp |
| H | double double bevel |


| DIN 1.3343 | (HSS-Dmo5) |
| :--- | :--- |
| DIN 1.3243 | (HSS-Emo5) |
| DIN 1.2379 | (K 110) |
| DIN 1.2067 | $\left(\begin{array}{l}\text { (100 Cr6) } \\ \hline \text { DIN 1.2080 } \\ \hline \text { DIN 1.4034 } \\ \hline \text { DIN 1.4112 } \\ \hline\end{array}\right.$ |

## Top Slitter Knives

## Rotary Slitter Knife For Paper Cutting



## PROPERTIES:

1. SHAPE : CIRCULAR DIAMETRE AVAILABLE IN $105 \mathrm{MM}, 80 \mathrm{MM}$
2. BORE : ID AVIALABLE IN $65 \mathrm{MM}, 70 \mathrm{MM}, 75 \mathrm{MM}, 80 \mathrm{MM}$
3. THICKNESS COMES IN 1.2 MM AND 1.5 MM
4. KEY WAY : HALF ROUND
5. IDENTIFIED BEND ON SURFACE FOR HIGHER EDGE CUTTING

## HSS Core Cutter

## Core Cutters



## WE MANUFACTURE CORE CUTTERS AS PER FOLLOWS"-

1. RANGE STARTS FROM 50 MM DIAMETRE TO 450 MM DIAMETRE
2. THICKNESS CAN BE MADE FROM 0.5 MM TO 6 MM
3. ID AS PER REQUIREMENT
4. STEEL GRADE - HSS M2, HSS M35, D2 , SPRING STEEL.

## Typical Industries include:

- Circular knives for Automotive
- Circular knives for Converting
- Circular knives for Food procesing
- Circular knives for Paper
- Circular knives for Packaging
- Circular knives for Plastics
- Circular knives for Printing
- Circular knives for Rubber
- Circular knives for Floor and Wall
- Circular knives for Coverings


## Cashew Cutter

## Hss M2 Grade Cashew Cutter Blade



We have developled a market leadership in the field of cashew cutting blade. we believe in delievering best quality food grade cashew cutter. our cashew cutter is made from hss m2 grade steel for better output and long product life. its edges are finished in a way that the job done without any aer and tear.

## HSS Side And Face Cutters



Side and Face Cutters are designed with cutting teeth on its side as well as its circumference. They are made in varying diameters and widths depending on the application.
In face milling, only the top of the cutting tool does the milling action. However, in peripheral milling, the sides of the workpiece are involved too. Face milling can be done on machines with horizontal and vertical spindles while peripheral milling is limited to only machines with horizontal
HSS side and face milling cutter, DIN 138/885, with straight toothing for milling deep slots, cutting-off or cutting to length of steel and cast materials as well as short-chipping non-ferrous metals.

## BASIC PARAMETERS:-

TYPE: (TYPE A STAGGERED TEETH \& TYPE B STRAIGTH TEETH)
Diameter RANGE: 50 mm to 300 mm , 2inches to 12 inches.
Thickness RANGE: 4MM to 50 mm .
Material: M-2, M35, M42.

Side and Face Milling Cutters According DIN 885A Cobalt 5\% with Coarse Tooth Pitch:

| Diameter | Thickness | Hole | Teeth Nr. |
| :---: | :---: | :---: | :---: |
| 50 | 3 | 16 | 12 |
| 50 | 4 | 16 | 12 |
| 50 | 5 | 16 | 12 |
| 50 | 6 | 16 | 12 |
| 50 | 8 | 16 | 12 |
| 50 | 10 | 16 | 12 |
| 63 | 3 | 22 | 12 |
| 63 | 4 | 22 | 12 |
| 63 | 5 | 22 | 12 |
| 63 | 6 | 22 | 12 |
| 63 | 8 | 22 | 12 |
| 63 | 10 | 22 | 12 |
| 63 | 12 | 22 | 12 |
| 63 | 14 | 22 | 12 |
| 63 | 16 | 22 | 12 |
| 63 | 18 | 22 | 12 |
| 80 | 3 | 27 | 14 |
| 80 | 4 | 27 | 14 |
| 80 | 5 | 27 | 14 |
| 80 | 6 | 27 | 14 |
| 80 | 8 | 27 | 14 |
| 80 | 10 | 27 | 14 |


| 80 | 12 | 27 | 14 |
| :---: | :---: | :---: | :---: |
| 80 | 14 | 27 | 14 |
| 80 | 16 | 27 | 14 |
| 80 | 18 | 27 | 14 |
| 80 | 20 | 27 | 14 |
| 100 | 3 | 32 | 14 |
| 100 | 4 | 32 | 14 |
| 100 | 5 | 32 | 14 |
| 100 | 6 | 32 | 14 |
| 100 | 8 | 32 | 14 |
| 100 | 10 | 32 | 14 |
| 100 | 12 | 32 | 14 |
| 100 | 14 | 32 | 14 |
| 100 | 16 | 32 | 14 |
| 100 | 18 | 32 | 14 |
| 100 | 20 | 32 | 14 |
| 100 | 25 | 32 | 14 |
| 125 | 4 | 32 | 16 |
| 125 | 5 | 32 | 16 |
| 125 | 6 | 32 | 16 |
| 125 | 8 | 32 | 16 |
| 125 | 10 | 32 | 16 |
| 125 | 12 | 32 | 16 |


| 125 | 14 | 32 | 16 |
| :---: | :---: | :---: | :---: |
| 125 | 16 | 32 | 16 |
| 125 | 18 | 32 | 16 |
| 125 | 20 | 32 | 16 |
| 125 | 25 | 32 | 16 |
| 125 | 28 | 32 | 16 |
| 160 | 6 | 40 | 18 |
| 160 | 8 | 40 | 18 |
| 160 | 10 | 40 | 18 |
| 160 | 12 | 40 | 18 |
| 160 | 14 | 40 | 18 |
| 160 | 16 | 40 | 18 |
| 160 | 18 | 40 | 18 |
| 160 | 20 | 40 | 18 |
| 160 | 25 | 40 | 18 |
| 160 | 32 | 40 | 18 |
| 200 | 8 | 40 | 24 |
| 200 | 10 | 40 | 24 |
| 200 | 12 | 40 | 24 |
| 200 | 14 | 40 | 24 |
| 200 | 16 | 40 | 24 |
| 200 | 18 | 40 | 24 |
| 200 | 20 | 40 | 24 |


| 200 | 25 | 4 | 24 |
| :--- | :--- | :--- | :--- |
| 200 | 32 | 40 | 24 |


| Recomended Aplication for Side and Face Milling Cutters According DIN 885A |  |  |
| :--- | :--- | :--- |
| Cobalt 5\% with Coarse Tooth Pitch | Strenght | HSSE / HSS Co5 |
| Free-cutting steels, general construction steels |  | Recomended cutting <br> speed |
| General construction steels, steel castings | $\leq 600 \mathrm{MPa}$ | 37,5 |
| Cast iron | $\leq 850 \mathrm{MPa}$ | 32,5 |
| Copper-zinc alloys, copper-tin alloys | $\leq 800 \mathrm{MPa}$ | 30 |
| Aluminium, Aluminium cast alloys Si | $\leq 500 \mathrm{MPa}$ | $160-250$ |

Side and Face milling Cutters According DIN 885A Cobalt 5\% with Fine Tooth Pitch:

| Diameter | Thickness | Hole | Teeth Nr. |
| :---: | :---: | :---: | :---: |
| 50 | 4 | 16 | 16 |
| 50 | 5 | 16 | 16 |
| 50 | 6 | 16 | 16 |
| 50 | 8 | 16 | 16 |
| 50 | 10 | 16 | 16 |
| 63 | 4 | 16 | 18 |
| 63 | 5 | 22 | 18 |
| 63 | 6 | 22 | 18 |
| 63 | 8 | 22 | 18 |
| 63 | 10 | 22 | 18 |
| 63 | 12 | 22 | 18 |


| 63 | 14 | 22 | 18 |
| :---: | :---: | :---: | :---: |
| 63 | 16 | 22 | 18 |
| 80 | 4 | 27 | 20 |
| 80 | 5 | 27 | 20 |
| 80 | 6 | 27 | 20 |
| 80 | 8 | 27 | 20 |
| 80 | 10 | 27 | 18 |
| 80 | 12 | 27 | 18 |
| 80 | 14 | 27 | 18 |
| 80 | 16 | 27 | 18 |
| 80 | 18 | 27 | 18 |
| 80 | 20 | 27 | 18 |
| 100 | 4 | 32 | 20 |
| 100 | 5 | 32 | 20 |
| 100 | 6 | 32 | 20 |
| 100 | 8 | 32 | 20 |
| 100 | 10 | 32 | 20 |
| 100 | 12 | 32 | 20 |
| 100 | 14 | 32 | 20 |
| 100 | 16 | 32 | 20 |
| 100 | 18 | 32 | 20 |
| 100 | 20 | 32 | 20 |
| 100 | 25 | 32 | 20 |


| 125 | 5 | 32 | 24 |
| :---: | :---: | :---: | :---: |
| 125 | 6 | 32 | 24 |
| 125 | 8 | 32 | 24 |
| 125 | 10 | 32 | 22 |
| 125 | 12 | 32 | 22 |
| 125 | 14 | 32 | 22 |
| 125 | 16 | 32 | 22 |
| 125 | 18 | 32 | 22 |
| 125 | 20 | 32 | 22 |
| 125 | 25 | 32 | 22 |
| 125 | 28 | 32 | 22 |
| 160 | 6 | 40 | 26 |
| 160 | 8 | 40 | 26 |
| 160 | 10 | 40 | 26 |
| 160 | 12 | 40 | 26 |
| 160 | 14 | 40 | 26 |
| 160 | 16 | 40 | 26 |
| 160 | 18 | 40 | 26 |
| 160 | 20 | 40 | 26 |
| 160 | 25 | 40 | 26 |
| 160 | 32 | 40 | 26 |
| 200 | 8 | 40 | 32 |
| 200 | 10 | 40 | 32 |


| 200 | 12 | 40 | 32 |
| :--- | :--- | :--- | :--- |
| 200 | 14 | 40 | 32 |
| 200 | 16 | 40 | 32 |
| 200 | 20 | 40 | 32 |
| 200 | 25 | 40 | 38 |
| 200 | 32 | 40 | 38 |
| 200 | 8 | 40 | 38 |
| 250 | 10 | 40 | 38 |
| 250 | 12 | 40 | 38 |
| 250 |  |  |  |
|  |  |  |  |


| Recomended Aplication for Side and Face Milling Cutters according DIN 885A |  |  |
| :--- | :--- | :--- |
| Cobalt 5\% with Fine Tooth Pitch | Strenght | HSSE/ HSS Co5 |
| Recomended cutting |  |  |
| speed |  |  |

## HSS Angle Milling Cutters

Angular milling (or angle milling) involves removing portions of material from a workpiece to form the desired product. However, unlike conventional milling, angular milling creates flat surfaces that aren't parallel (or perpendicular) to the axis of the cutting tool
A 45 degree cutter is the general purpose choice for face milling. It generates well balanced radial and axial cutting forces which is less demanding on the machine power. HOWEVER IT CAN BE MADE IN VARIOUS ANGLES AND DEGREES.


## Angle Milling Cutters

Angle Type: Single Angle, Double Angle, Equal
Angle, Double Unequal Angle
Degree Range : 10 Deg To 90 Deg
Diameter Range: 50 mm To 300 mm , 2inches To 12inches.
Thickness Range: 6 Mm To 50 Mm .
Material: M-2, M35, M42.

| Dimensions | Hole H7 | Teeth number |  | Angle |
| :---: | :---: | :---: | :---: | :---: |
| $95 \times 2,0 \mathrm{~mm}$ | 32 | 60 | left | $45^{\circ}$ or $60^{\circ}$ |
| $95 \times 2,0 \mathrm{~mm}$ | 32 | 60 | right | $45^{\circ}$ or $60^{\circ}$ |
| $95 \times 2,0 \mathrm{~mm}$ | 20 | 70 | left | $45^{\circ}$ or $60^{\circ}$ |
| $95 \times 2,0 \mathrm{~mm}$ | 20 | 70 | right | $45^{\circ}$ or $60^{\circ}$ |
| $98 \times 2,0 \mathrm{~mm}$ | 32 | 60 | left | $45^{\circ}$ or $60^{\circ}$ |
| $98 \times 2,0 \mathrm{~mm}$ | 32 | 60 | right | $45^{\circ}$ or $60^{\circ}$ |
| $103 \times 2,1 \mathrm{~mm}$ | 32 | 60 | left | $45^{\circ}$ or $60^{\circ}$ |
| $103 \times 2,1 \mathrm{~mm}$ | 32 | 60 | right | $45^{\circ}$ or $60^{\circ}$ |
| $155 \times 3,0 \mathrm{~mm}$ | 32 | 68 | left | $45^{\circ}$ or $60^{\circ}$ |
| $155 \times 3,0 \mathrm{~mm}$ | 32 | 68 | right | $45^{\circ}$ or $60^{\circ}$ |


| Side angle | Diameter | Thickness | Hole | Radius | Teeth Nr. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $20^{\circ}$ | 63 | 6 | 16 | 1 | 14 |
| $20^{\circ}$ | 100 | 10 | 27 | 1,5 | 18 |
| $25^{\circ}$ | 63 | 6 | 22 | 1 | 14 |
| $25^{\circ}$ | 80 | 10 | 22 | 1 | 16 |
| $25^{\circ}$ | 100 | 14 | 27 | 1,5 | 18 |
| $25^{\circ}$ | 125 | 18 | 27 | 2 | 20 |
| $25^{\circ}$ | 160 | 22 | 32 | 2,5 | 22 |
| $30^{\circ}$ | 63 | 8 | 22 | 1 | 14 |
| $30^{\circ}$ | 100 | 14 | 27 | 1,5 | 18 |


| Side angle | Diameter | Thickness | Hole | Teeth Nr. HSS M2 | Teeth Nr. Cobalt 5\% |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $45^{\circ}$ | 40 | 10 | 10 | 14 | 14 |
| $45^{\circ}$ | 50 | 13 | 13 | 16 | 16 |
| $45^{\circ}$ | 63 | 18 | 16 | 18 | 16 |
| $45^{\circ}$ | 80 | 22 | 22 | 20 | 18 |
| $45^{\circ}$ | 100 | 28 | 27 | 22 | 20 |
| $45^{\circ}$ | 125 | 36 | 32 | 24 |  |
| $45^{\circ}$ | 160 | 45 | 40 | 28 |  |
| $50^{\circ}$ | 40 | 13 | 10 | 14 | 14 |
| $50^{\circ}$ | 50 | 16 | 13 | 16 | 16 |
| $50^{\circ}$ | 63 | 20 | 16 | 18 | 16 |
| $50^{\circ}$ | 80 | 25 | 22 | 20 | 18 |
| $50^{\circ}$ | 100 | 32 | 27 | 22 | 20 |
| $50^{\circ}$ | 125 | 40 | 32 | 24 |  |
| $50^{\circ}$ | 160 | 50 | 40 | 28 |  |
| $55^{\circ}$ | 40 | 13 | 10 | 14 |  |
| $55^{\circ}$ | 50 | 6 | 13 | 16 |  |
| $55^{\circ}$ | 63 | 20 | 16 | 18 |  |
| $55^{\circ}$ | 80 | 25 | 22 | 20 |  |
| $55^{\circ}$ | 100 | 32 | 27 | 22 |  |
| $55^{\circ}$ | 125 | 40 | 32 | 24 |  |
| $60^{\circ}$ | 40 | 13 | 10 | 14 | 14 |
| $60^{\circ}$ | 50 | 16 | 13 | 16 | 16 |


| $60^{\circ}$ | 63 | 20 | 16 | 18 | 16 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $60^{\circ}$ | 80 | 25 | 22 | 20 | 18 |
| $60^{\circ}$ | 100 | 32 | 27 | 22 | 20 |
| $60^{\circ}$ | 125 | 40 | 32 | 26 |  |
| $60^{\circ}$ | 160 | 50 | 40 | 28 |  |


| Top angle | Diameter | Thickness | Hole | Teeth Nr. HSS M2 | Teeth Nr. Cobalt 5\% |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $45^{\circ}$ | 50 | 8 | 16 | 22 | 16 |
| $45^{\circ}$ | 63 | 10 | 22 | 24 | 16 |
| $45^{\circ}$ | 80 | 12 | 27 | 26 | 20 |
| $45^{\circ}$ | 100 | 18 | 32 | 28 | 20 |
| $60^{\circ}$ | 50 | 10 | 16 | 18 | 16 |
| $60^{\circ}$ | 63 | 14 | 22 | 20 | 16 |
| $60^{\circ}$ | 80 | 18 | 27 | 22 | 18 |
| $60^{\circ}$ | 100 | 25 | 32 | 24 | 20 |
| $90^{\circ}$ | 50 | 14 | 16 | 16 | 16 |
| $90^{\circ}$ | 63 | 20 | 22 | 18 | 16 |
| $90^{\circ}$ | 80 | 22 | 27 | 20 | 18 |
| $90^{\circ}$ | 100 | 32 | 32 | 24 | 20 |
| $120^{\circ}$ | 50 | 14 | 16 | 16 | 16 |
| $120^{\circ}$ | 63 | 20 | 22 | 16 | 16 |
| $120^{\circ}$ | 80 | 25 | 27 | 20 | 20 |
| $120^{\circ}$ | 100 | 36 | 32 | 24 | 24 |

## Hss Shell End Mill Cutters

An industrial milling application often involves the use of a shell end mill as a cutting tool. In terms of geometry, use, and manufacturing, it is different from a drift drill. An end mill, on the other hand, can cut in almost all directions while a drill mill can only cut in the axial direction.


Diameter RANGE: 40mm to 200MM.
LENGTH RANGE: 40MM to 200 mm.
Material: M-2, M35, M42.

## QUALITY IS NOT EXPENSIVE ITS PRICELESS



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