



KINKELDER[®]
the cutting experts

TUBE CUTTING



TUBE CUTTING

Cutting tubes to length on automatic
(flying cut-off) sawing machines

HSS Series

Cutting harder materials at higher cutting speeds



Due to a special, wear resistant, multilayer PVD coating with a low friction coefficient, very high hardness and very high temperature resistance, Fusion 2.0 saw blades can be used for cutting medium to high tensile carbon steel on extremely demanding applications. Also very suitable for flying cut-off applications.

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| APPLICATIONS | Medium to high tensile (carbon) steel |
| PARAMETERS | Suggested cutting speed: 120 – 200 m/min. Feed: 0.04 – 0.18 mm/tooth |
| MACHINES | Automatic, semi-automatic and flying cut off applications |



Fusion NX saw blades have specifically been designed for stainless steel applications and sticky materials, but they are also suitable for cutting (thin walled) steel tubes and stainless steel flying cut-off applications.

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| APPLICATIONS | Ideal for cutting (stainless) steel tubes and sticky materials |
| PARAMETERS | Suggested cutting speed: Austenitic stainless steel (300 series) 30 - 50 m/min |
| MACHINES | Automatic, semi-automatic and flying cut off applications |



Power 2.0 saw blades provide an optimal combination of a rigid saw blade and a vibration-reducing thin kerf for cutting thin walled tubes and profiles on very demanding applications. A superior surface finish and low friction multilayer PVD coating ensure low vibration, less burr and reduced risk of tube-end deformation.

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| APPLICATIONS | Cutting thin walled steel tubes and profiles |
| PARAMETERS | Suggested cutting speed: 120 - 200 m/min. Feed: 0.04 – 0.18 mm/tooth. |
| MACHINES | Automatic, semi-automatic and flying cut off applications |



The Power NX saw blade has specifically been designed for cutting (very) thin walled (stainless) steel tubes and profiles. A special, temperature resistant, thin PVD coating, combined with a thinned cutting area, enables these blades to be used for extremely demanding applications, like fast cutting of thin walled products.

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| APPLICATIONS | Cutting thin walled (stainless) tubes and profiles, sticky materials |
| PARAMETERS | Suggested cutting speed: Austenitic stainless steel (300 series) 30 - 50 m/min |
| MACHINES | Automatic, semi-automatic and flying cut off applications |



X-treme 2.0 embodies the best features of both the Fusion and Power saw blades. Due to a stable, flat hub and improved conicity of the cutting area, X-treme 2.0 saw blades offer a stable and highly accurate solution when cutting high tensile steel tubes and profiles on a very high performance level.

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| APPLICATIONS | Cutting steel tubes and profiles with a tensile strength up to 1,000 N/mm ² |
| PARAMETERS | Suggested cutting speed: 120 - 260 m/min. Feed: 0.04 - 0.22 mm/tooth. |
| MACHINES | High quality automatic |



A dedicated low friction, thin PVD coating with a very high temperature resistance, as well as a stable, flat hub and improved conicity of the cutting area enable the X-treme NX saw blade to cut stainless steel tubes and profiles.

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| APPLICATIONS | (Stainless) steel tubes, profiles and sticky materials |
| PARAMETERS | Suggested cutting speed: Austenitic stainless steel (300 series) 30 - 50 m/min |
| MACHINES | High quality automatic |

For more information:

www.kinkelder.com



Due to a sophisticated PVD coating for wear protection which achieves a very low friction coefficient, the Eclipse saw blade is a cost efficient solution for cutting structural and non-alloy tool steel thin walled tubes. Eclipse is also very suitable for cutting stainless steel tubes and profiles.

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| APPLICATIONS | All structural steel , non-alloy tool steel and stainless steel thin walled tubes. Tensile strength up to 600 N /mm ² |
| PARAMETERS | Suggested cutting speed: Steel 60 - 120 m/min Austenitic stainless steel (300 series) 30 - 50 m/min |
| MACHINES | Manual, automatic and flying cut-off applications |

Champion & CX series

The best choice for high volume steel tube cutting



With a new carbide grade, PVD coating, body design and tooth geometry, the Champion TL saw blade series embodies our latest innovations for high performance TCT tube cutting. The Champion TL saw blade has been designed to cut tubes with tensile up to 850 N/mm² on high output / high quality stationary sawing machines.

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| APPLICATIONS | Medium to high tensile (carbon) steel |
| PARAMETERS | Suggested cutting speed: 120 – 200 m/min. Feed: 0.04 – 0.18 mm/tooth |
| MACHINES | Automatic, semi-automatic and flying cut off applications |



Champion TH has been developed for cutting (thin walled) tubes with tensile strengths up to 1,800 N/mm², using cutting speeds up to 350 m/min and very high feed rates.

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| APPLICATIONS | Thin walled steel tubes with a tensile strength up to 1,800 N/mm ² |
| PARAMETERS | Suggested cutting speed: 200 - 350 m/min. Feed: 0.04 - 0.2 mm/tooth |
| MACHINES | Rattunde, Sinico, Bewo, RSA, Adige |



The CX 3 saw blade has been developed for cutting tubes on high performance automatic sawing machines, at a higher maximum cutting speed than with HSS saw blades. It is most effective on sawing machines with accurate control of chip load and variable feed rate. Bigger tips are applied at pitches > 9mm for added stability.

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| APPLICATIONS | Steel tubes with a tensile strength between 600 to 1,500 N/mm ² |
| PARAMETERS | Suggested cutting speed: 180 - 280 m/min. Feed: 0.04 - 0.16 mm/tooth. |
| MACHINES | Rattunde, Sinico, Bewo, RSA, Plantool, Adige, OMP |



The high nickel content of austenitic stainless steel tubes makes them difficult to cut with HSS saw blades. With the dedicated tooth geometry of the carbide tipped and PVD coated CX 4 saw blade, perfect surface finish and burr-free tube ends will be achieved.

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| APPLICATIONS | Austenitic stainless steel tubes |
| PARAMETERS | Suggested cutting speed: 80 - 140 m/min. Feed: 0.06 - 0.12 mm/tooth. |
| MACHINES | Rattunde, Bewo, RSA, Sinico |



The CX 5 saw blade has been specifically designed to cut thin walled tubes. Because of its light cutting properties it is also very well suited for use on a wide range of automatic cut-off machines.

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| APPLICATIONS | Thin wall high hardness tube cutting on lighter machines. High performance cutting of thin walled tubes and unstable profiles on high-end machines. |
| PARAMETERS | Suggested cutting speed: 160 - 280 m/min. Feed: 0.025 - 0.12 mm/tooth. |
| MACHINES | Kasto, Bewo, RSA, Adige, Sinico, Rattunde |

Flying cut-off

3 proven sawing concepts for ERW tube and pipe industry



SpeedMaster is a TCT saw blade for flying cut-off applications on tube mills. It provides an opportunity to greatly increase the tube manufacturing line speeds and cut the production costs. Where cutting speed limits of coated HSS saw blades have been reached, SpeedMaster saw blades provide an effective solution.

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| APPLICATIONS | Single and twin flying cut-off machines designed for TCT cutting with small or no ID-scarf. Cutting tubes with a tensile strength up to 1800 N/mm ² |
| PARAMETERS | Cutting speed: 350 m/min (starting value). Tooth load 1/2/3: relation 1/2/0.8. 0.05/0.10/0.04 mm/tooth. |
| MACHINES | OTO mills, MTM, Olimpia 80, SMS Meer, Nakata |



The PVD coated carbide tipped ScarfMaster has specifically been designed for flying cut-off applications dealing with heavy inside scarf. It features a very specific tooth geometry, combined with highly shock resistant carbide tips. Due to strong saw body shoulders which give the teeth maximum support, the combination tooth/body obtains very high stability and fracture resistance. Extended blade life is therefore achieved.

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| APPLICATIONS | Flying cut-off applications dealing with heavy inside scarf |
| PARAMETERS | Cutting speed: 400 – 500 m/min (choose max available). Tooth load 1/2/3: relation 1/1/1. Starting value 0.04 mm/tooth. |
| MACHINES | ScarfMaster saw blades are available for flying cut-off machines, such as MTM, OTO mills, Nakata and Olimpia. |



TubeMaster saw blades have especially been designed for orbital flying cut-off applications on tube mills. A new generation of TubeMaster products has been developed, applying a new body design, a new carbide grade, a new tip geometry and a special coating. The new TubeMaster generation shows a higher blade life.

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| APPLICATIONS | Orbital, flying cut-off applications |
| PARAMETERS | Suggested cutting speed: 350 – 400 m/min. Feed 1/2: 0.04 / 0.12 mm/tooth. |
| MACHINES | TubeMaster saw blades are available for all types of orbital cutting machines, such as MTM, OTO mills, Elmaksan, Kusakabe, Linsinger, Nakata and SMS Meer. |



The TubeMaster Stainless saw blade has specifically been developed for cutting stainless steel tubes on orbital flying cut-off units. These saw blades can cope with cutting speeds between 60 – 120 m/min. TubeMaster Stainless offers high uptime due to a blade life up to 3,5m², combined with high cut quality and production output.

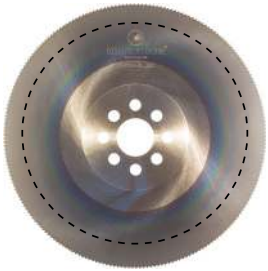
| | |
|---------------------|---|
| APPLICATIONS | Orbital, stainless steel flying cut-off applications |
| PARAMETERS | Suggested cutting speed: 60 – 120 m/min Feed: 0.035 – 0.10 mm/tooth |
| MACHINES | TubeMaster Stainless saw blades are available for all orbital cutting machines. |

TUBE CUTTING WITH VISION

Kinkelder offers a wide range of circular saw blades for the Tube & Pipe industry, for stationary as well as flying cut-off applications. Dedicated technical advice and service are being provided to the world's most demanding customers by a worldwide network of local distributors.

In cooperation with machine manufacturers, we continuously challenge existing frontiers to enable end users to achieve higher outputs and lower costs per cut. Specialized technical support on site is offered to optimize specific application conditions.

HSS saw blades



High Speed Steel circular saw blades offer the lowest saw blade cost and are widely used on applications where blade cost is more important than output and surface quality.

An HSS blade is specified by a blade diameter and number of teeth, and is coated for most applications. For high performance applications, the teeth are coated as well.

When the HSS blade passes a certain threshold (quality of the cut surface, machine torque), the blade has to be regrinded and in some cases recoated. This can be repeated for 10 – 15 times. After each regrind, the blade diameter shrinks; when the tooth pitch is kept constant, the number of teeth becomes less.

The maximum tube diameter that can be cut also diminishes over the life cycle of the HSS blade. With recoating, the number of cuts in between two regrinds will increase. As HSS blades have a defined conicity, regrinding can take place as far as the clearance allows.

HSS saw blades dedicated to tube cutting



TCT saw blades



Tungsten Carbide Tipped circular saw blades are typically being used for applications where output and surface quality are highly valued.

TCT blades are conceptualized and applied for single use. The geometry, carbide grinding and coating need to be perfectly controlled to offer the best performance.

Application specific blades can be developed to meet individual customers' needs. Very high outputs can be obtained with our TCT saw blades, provided machine conditions, cutting parameters and blade selection are optimal.

Applying single use TCT blades prevents regrinding logistics and extends the up-time of your sawing process.

TCT saw blades dedicated to tube cutting

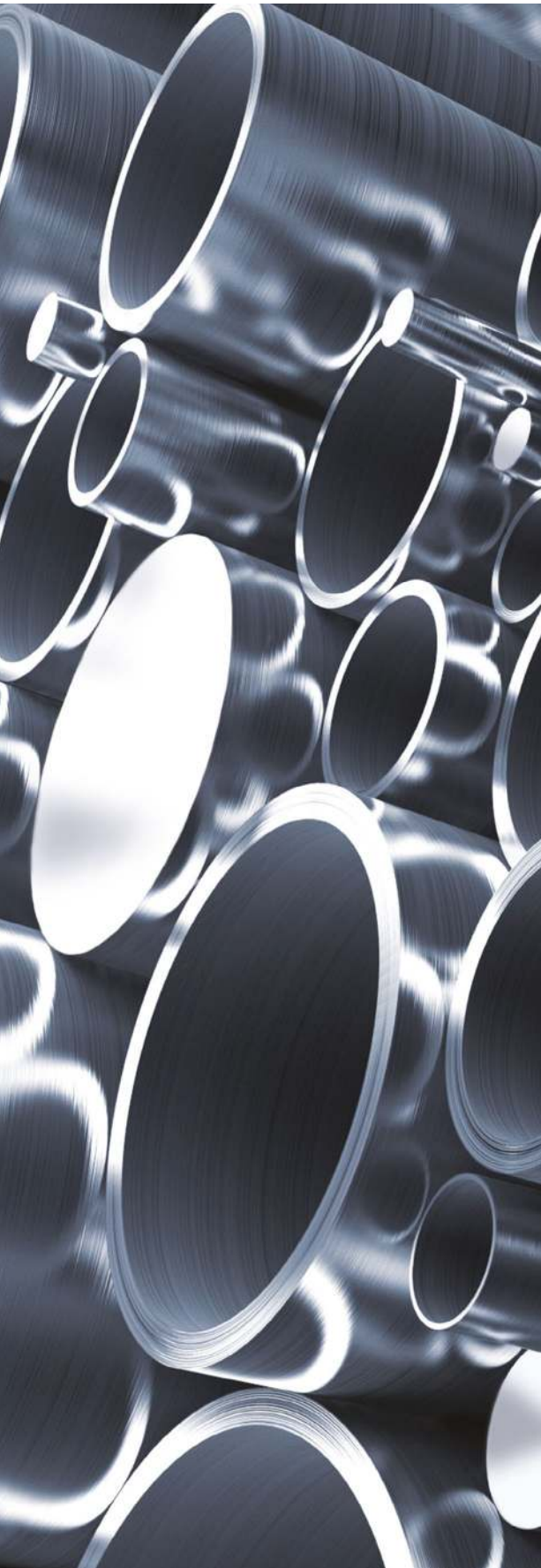


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