

A close-up photograph of a bandsaw blade, showing the intricate teeth and the smooth, curved body of the blade. The blade is set against a light, neutral background. A white square is superimposed on the lower-left portion of the blade, highlighting a specific section of the teeth.

# BANDSAW CATALOGUE

2012/13



# WELCOME TO THE WORLD OF LENOX® BANDSAWS

*Bandsaw Blades | Sawing Fluids*

In this catalogue you'll find details of our **WORLD CLASS BANDSAW BLADES**, all of them have specific applications. Whether it's high production or occasional operational use, you'll find the blade to suit your needs in this catalogue.



## WHERE CAN I BUY LENOX® BANDSAW PRODUCTS

Our Bandsaw products are distributed throughout Europe, the Middle East and Africa by our **EUROPEAN BANDSAW CENTRE OF EXCELLENCE** in The Netherlands. We have a distribution, welding and customer service centre in Helmond, The Netherlands.

We also have partnerships with local distributor welding centres in your area, call or email our customer services to find your nearest distributor.

### **Customer Services**

- Call: +44 (0) 203 4506744
- Fax: +44 (0) 203 4509663
- E-mail: [lenox.bandsaw@lenoxtools.eu](mailto:lenox.bandsaw@lenoxtools.eu)

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## WHAT THE LENOX® HERITAGE OF QUALITY AND PERFORMANCE MEANS FOR YOU.

The LENOX® name is inspired by the speed, strength and sharp teeth of the wolves that once roamed the hills near the western shore of Loch Lomond in Scotland - home to the Earl of Lenox.

With that inspiration, we began our company in 1915, making the first LENOX® hacksaw blades with just ten employees. Now, 97 years later, LENOX® remains dedicated to producing the highest quality, best performing cutting products. As a result, we've grown to employ more than 600 people. Most of them work at our ISO 9001 certified facility in East Longmeadow, Mass., U.S.A., where we design, test and manufacture a broad range of bandsaw blades, power tool accessories and hand tools. Professionals count on the performance of our products in more than 70 countries around the world.

We continue to invest in our facilities, strongly supporting research and development and integrating the most advanced manufacturing technology. The result is the breakthrough performance and endurance of our newest products - including our ARMOR™ Bandsaw Blades. You'll see the exciting details in this catalogue. Plus, even more new, pacesetting LENOX® products are under development today and will soon be available.

Our commitment to quality and expertise extends throughout our sales and service organizations. LENOX® Representatives are carefully selected for their professionalism, experience and expertise. They are fully trained on both the application and marketing of LENOX® branded products. As a result, your LENOX® Representative knows your industry and fully understands the needs of distributors and end users.

Above all, we are committed to fully meeting the needs of our customers and ensuring complete satisfaction with our products and services. If you are new to LENOX®, thank you for the opportunity to earn your business.



LENOX® ISO 9001 certified facility in Helmond, The Netherlands, Europe.



LENOX® ISO 9001 certified facility in East Longmeadow, Mass., U.S.A.



## HOW LENOX® R&D RAISES THE BAR ON CUTTING PERFORMANCE

### We leverage exceptional scientific understanding.

LENOX® has been developing premium performance blades for 97 years. That unique depth of experience has brought us a command of the science of cutting that's second to none.

### It starts with our users' real world needs.

We set our R&D goals based on our unmatched insight into customer and industry requirements. Because we fully understand what our customers are cutting and how they are cutting it, we can develop superior, application specific blades.

### Superior quality processes shape our product development.

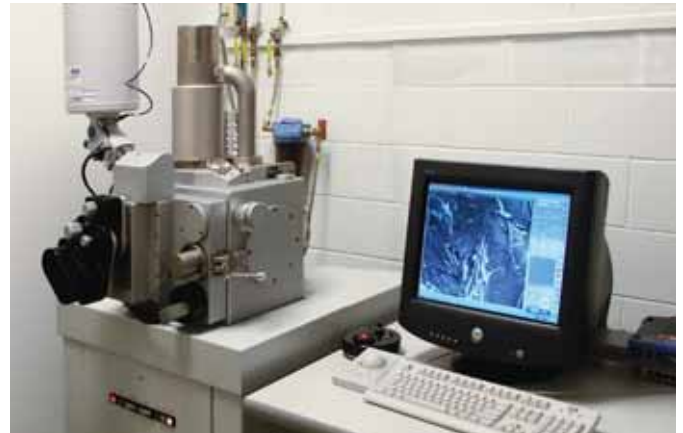
We apply advanced statistical tools such as Six Sigma® to ensure consistent performance every step of the way. Our milestone-based product development ensures that you get the right product with the right quality at the right time - right from the start.

We won't ship a blade until its premium performance is proven. We constantly test LENOX® and competitors' products - both in our own laboratories and at independent labs. We research and develop new products and processes - finding new ways to engineer and manufacture products that work better for you.

### We won't compromise on R&D investment.

Our dedicated R&D staff is among the largest, most experienced in the world. If there's a way to engineer more performance into a blade, our engineers will find it - and our state-of-the-art manufacturing facility can build it.

A fully equipped, in-house metallurgical lab enables us to engineer LENOX® product performance right down to the raw material level. With a broad in-house test facility, we can fine tune blade designs and other products to ensure maximum performance in any application.



## TUFFTOOTH™ Technology - Just One Example of How LENOX® R&D Pays Off For You.

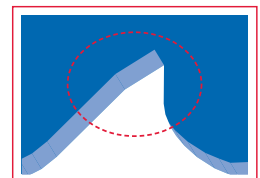
Tooth strippage used to be a problem, especially when cutting tough materials like stainless steel. Not anymore. Using the latest computer design technology, LENOX® R&D found a way to greatly strengthen teeth at the point where they were most likely to break. LENOX® brings you the result—patented *TUFFTOOTH™* design—available on our *CLASSIC™* bi-metal blade. *TUFFTOOTH™* delivers dramatically improved cutting performance with a smoother feel, faster cut and longer lasting blade.



*TUFFTOOTH™* patent no. 6167792B2



Standard tooth



vs. *TUFF TOOTH™*

## SUPPORTING YOUR BUSINESS

### Guaranteed Trial Order

Order a LENOX® blade and get this guarantee: the recommended blade will outperform your present blade or your money back - that's the LENOX® Guaranteed Trial Order (GTO). Contact your LENOX® Sales Representative for more details.

### Machine Tune-Up for the Best Sawing Performance

After a thorough tune-up by your LENOX® Factory Trained Technical Representative, every blade will cut smoother, straighter and faster. This 13 point tune-up optimizes blade and machine performance - ultimately reducing costs.

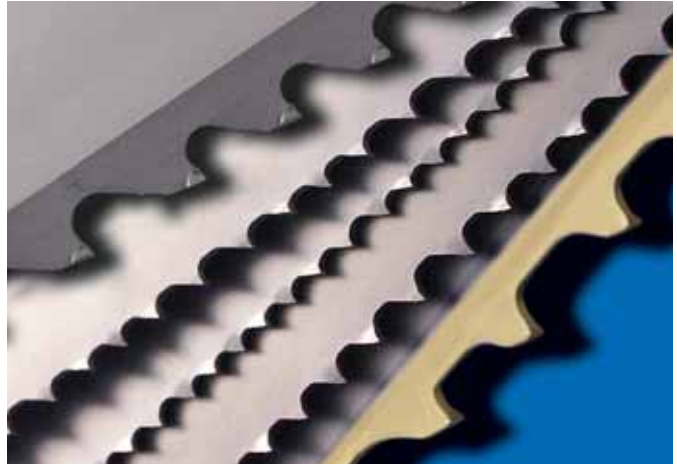
### Training Increases Productivity

Help your operators become more efficient with a training session taught in your plant by LENOX®. The training will cover installing blades, adjusting machinery, understanding speeds and feeds - everything you need to know to maximize machine and blade efficiency and reduce downtime.

### Technical Support

Answers to sawing questions are just a call away. LENOX® Technical Support Professionals will tell you the most appropriate blade for a job. Get tips on sawing and learn ways to make the job easier. The answers will save money and effort.

- Call: +44 (0) 203 4506744
- Fax: +44 (0) 203 4509663
- E-mail: [lenox.bandsaw@lenoxtools.eu](mailto:lenox.bandsaw@lenoxtools.eu)



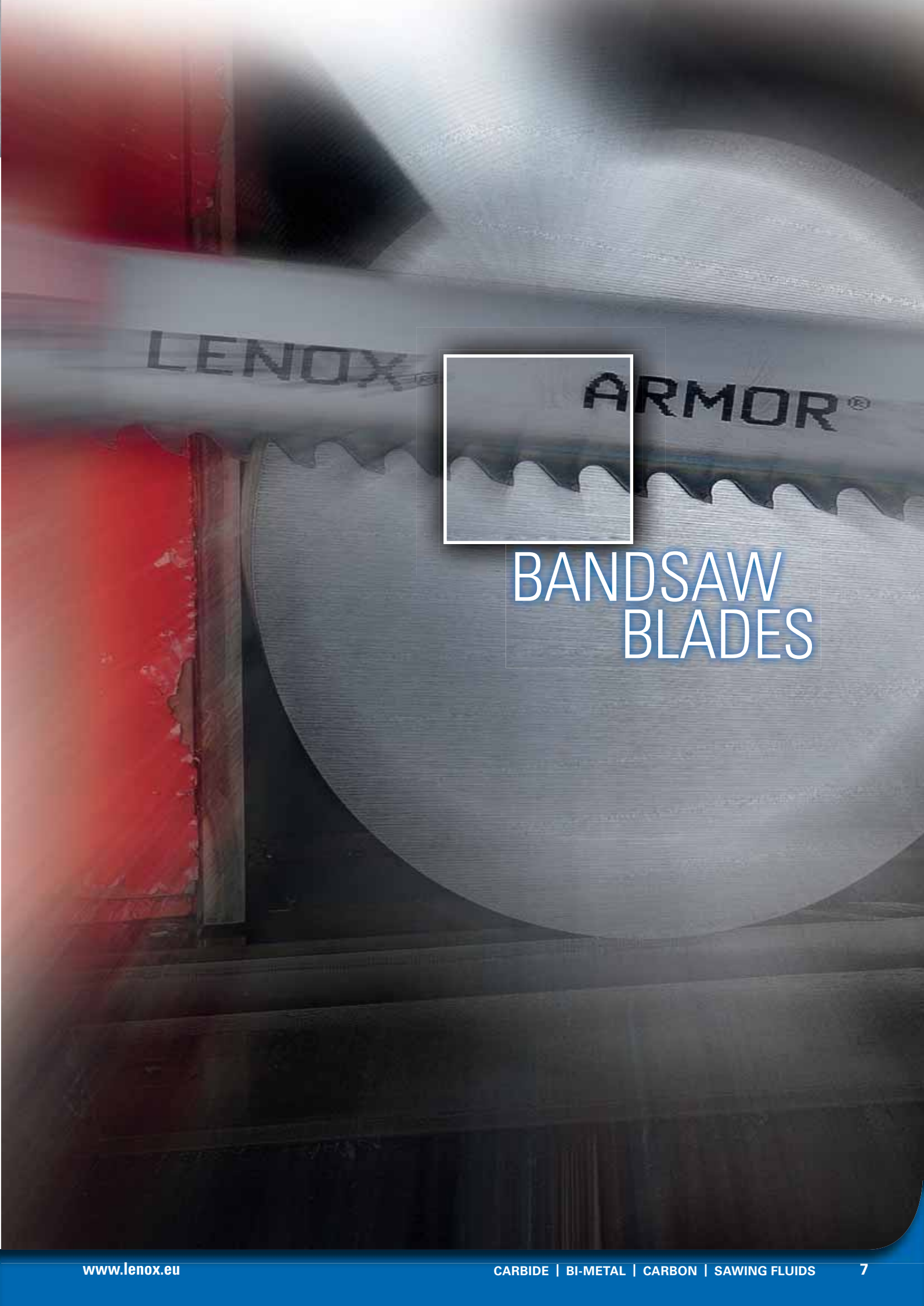
### SAWCALC® Product Number 00501

SAWCALC® is an easy to use software program designed to increase efficiency and profits. You can quickly access volumes of sawing information to help reduce your sawing costs. Let SAWCALC® help you determine cutting parameters for your bandsawing applications.

SAWCALC® considers your material composition, size, shape, and the machine model to prescribe specific speeds, feeds, blade and tooth specification needed to achieve the best payback on your sawing investments. The program is available in English, French, German and Spanish, using either imperial or metric units.

### The LENOX® Guarantee:

LENOX® provides a limited warranty for our products. Use only in accordance with LENOX® instructions. We warrant that our products are free from defects in materials and workmanship and that these products will perform as described under normal use and service. This warranty of quality is valid for 90 days from confirmed date of purchase. Except as expressly set forth herein, LENOX® makes no other warranties, express or implied, with regard to products, and expressly disclaims any warranty of fitness for a particular purpose. This warranty gives you specific legal rights and you may also have other rights which vary between countries.



LENOX



ARMOR

# BANDSAW BLADES

## HOW TO SELECT YOUR BANDSAW BLADES

The following information needs to be specified when a bandsaw blade is ordered:

For example:	Product Name	Length x Width x Thickness	Teeth Per Inch
	CONTESTOR GT®	16' x 1-1/4" x .042" 4860mm x 34mm x 1.07mm	3/4 TPI

## BANDSAW BLADES

These steps are a guide to selecting the appropriate product for each application

### STEP 1. Analyze the sawing application

**Machine:**

For most situations, knowing the blade dimensions (length x width x thickness) is all that is necessary.

**Material:**

Find out the following characteristics of the material to be cut.

- Grade
- Hardness (if heat treated or hardened)
- Shape
- Size
- Is the material to be stacked (bundled) or cut one at a time?

**Other Customer Needs:**

The specifics of the application should be considered.

- Production or utility/general purpose sawing operation?
- What is more important, fast cutting or tool life?
- Is material finish important?

### STEP 2. Determine which product to use

Use the charts on pages 9, 19, 20 and 28.

- Find the material to be cut in the top row.
- Read down the chart to find which blade is recommended.
- For further assistance, contact your LENOX® Technical Representative.

### STEP 3. Determine the proper number of teeth per inch (TPI)

Use the tooth selection chart on page 30.

- If having difficulty choosing between two pitches, the finer of the two will generally give better performance.
- When compromise is necessary, choose the correct TPI first.

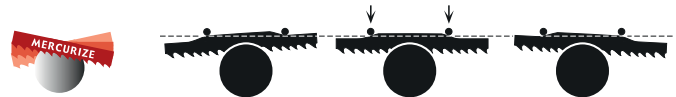
A general rule for bundles: Determine the correct TPI for one piece, and choose one pitch coarser for the bundle.

### STEP 4. Order LENOX® Sawing Fluids and Lubricants

...for better performance and longer life on any blade.

### STEP 5. Determine the need for MERCURIZATION

This patented, enhanced mechanical design promotes more efficient tooth penetration and chip formation, easily cutting through the work hardened zone. The MERCURIZE symbol denotes any product that can be *MERCURIZED™*. Consult your LENOX® Technical Representative to determine if MERCURIZATION will benefit your operation.



### STEP 6. Install the blade and fluid

### STEP 7. Break in the blade properly

For break-in recommendations, refer to page 42 or contact your LENOX® Technical Representative.

### STEP 8. Run the blade at the correct speed & feed rate

Refer to the Bi-metal and Carbide Speed Charts. For additional speed and feed recommendations contact your LENOX® Technical Representative.



# PRODUCT SELECTION CHARTS

## CARBIDE PRODUCT SELECTION

HIGH PERFORMANCE	ALUMINUM/ NON-FERROUS	CARBON STEELS	STRUCTURAL STEELS	ALLOY STEELS	BEARING STEELS	MOLD STEELS	STAINLESS STEELS	TOOL STEELS	TITANIUM ALLOYS	NICKEL-BASED ALLOYS (INCONEL®)	
	EASY ← MACHINABILITY → DIFFICULT										
	<b>ARMOR® CT BLACK</b> Extreme Cutting Rates										
	<b>LENOX® TNT CT®</b>						<b>LENOX® TNT CT®</b> Extreme Performance on Super Alloys				
	<b>TRI TECH CT™</b>			<b>TRI TECH CT™</b> Set Style Carbide for Difficult to Cut Metals							
	<b>TRI-MASTER®</b>			<b>TRI-MASTER</b> Versatile Carbide Tipped Blade							
SPECIAL APPLICATION	WOOD	COMPOSITES	ALUMINUM (Including Alum. Castings)			CASE HARDENED MATERIALS (Including IHCP Cylinder Shafts)			OTHER (Composites, Tires, etc.)		
	EASY ← MACHINABILITY → DIFFICULT										
	<b>CAST MASTER™</b> Superior Performance When Sawing Castings										
	<b>TRI-MASTER®</b>						<b>LENOX® HRc®</b> Carbide Tipped Blade for Case and Through-Hardened Materials				
	<b>MASTER-GRIT®</b>		<b>MASTER-GRIT®</b> Carbide Grit Edge Blade for Cutting Abrasive and Hardened Materials								

## BI-METAL PRODUCT SELECTION

HIGH PERFORMANCE	ALUMINUM/ NON-FERROUS	CARBON STEELS	STRUCTURAL STEELS	ALLOY STEELS	BEARING STEELS	MOLD STEELS	STAINLESS STEELS	TOOL STEELS	TITANIUM ALLOYS	NICKEL-BASED ALLOYS (INCONEL®)	
	EASY ← MACHINABILITY → DIFFICULT										
	<b>Qxp™</b>		<b>Qxp™</b> Long Life. Fast Cutting								
							<b>CONTESTOR GT®</b> Long Life. Straight Cuts				
	<b>ARMOR® RX®+</b> Long Life. Structurals/Bundles										
	<b>LENOX® RX®+</b> Long Life. Structurals/Bundles										
	<b>CLASSIC PRO™</b> Long Life. Extremely Versatile						<b>CLASSIC PRO™</b>				
GEN. PURPOSE	<b>LENOX CLASSIC®</b> 3/4" and Wider Blades						<b>LENOX CLASSIC®</b>				
	<b>DIEMASTER 2®</b> 1/2" and Narrower Blades						<b>DIEMASTER 2®</b>				

## TRI-TECH CT™

SET STYLE CARBIDE For Difficult-to-Cut Metals

### STRAIGHT CUTS. NO PINCHING.

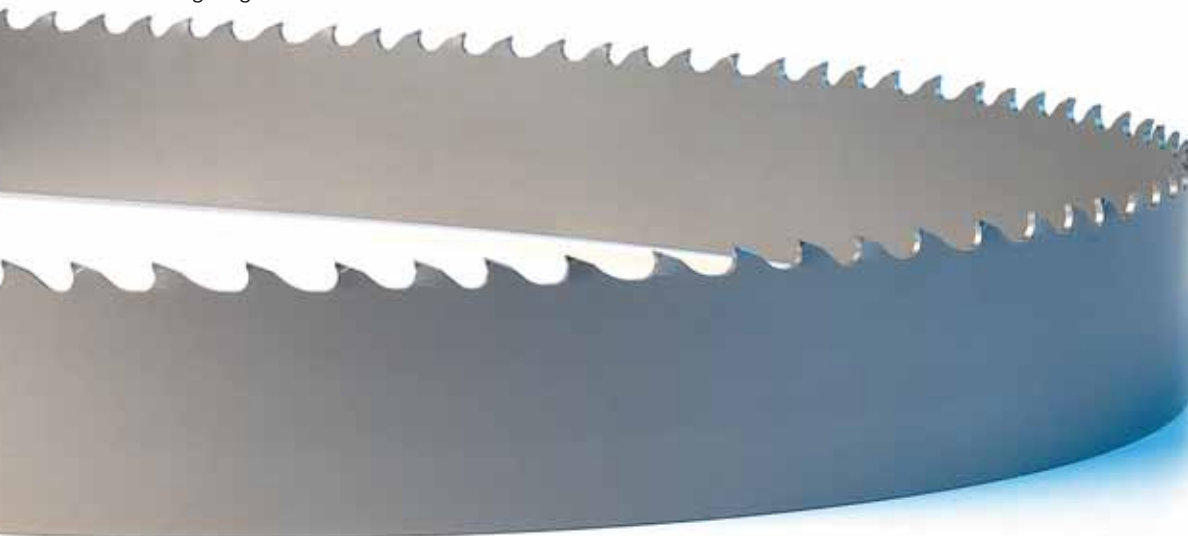
Set style tooth pattern eliminates pinching in high stress metals. Wide kerf clearance enables plunge cutting.

### PROLONGED BLADE LIFE

High grade carbide tips are precision ground for efficient cutting. High performance backing steel minimizes body breakage. Optimized chip formation keeps the blade moving through the work.

### EXTREME VERSATILITY

Cuts a range of materials from high strength steels to Nickel-based alloys. Positive rake angle provides strength and durability at the cutting edge.



WIDTH x THICKNESS		TPI					APPLICATIONS
IN	MM	0.6/0.8	0.9/1.1	1.4/1.8	1.8/2.0	2.5/3.4	
1-1/4 x .042	34 x 1.07				●	●	
1-1/2 x .050	41 x 1.27			●	●	●	
2 x .063	54 x 1.60		●	●	●	●	
2-5/8 x .063	67 x 1.60	●	●	●			
3 x .063	80 x 1.60	●	●				



# ARMOR™ CT BLACK

For Extreme Cutting Rates

**ALTiN ARMOR FOR SPEED AND PRODUCTIVITY**

Aluminium, Titanium and Nitrogen combine to form a coating that is hard and tough, protecting each tooth from heat and wear with an armor-like barrier

**ARMOR ALLOWS FOR LOW THERMAL CONDUCTIVITY**

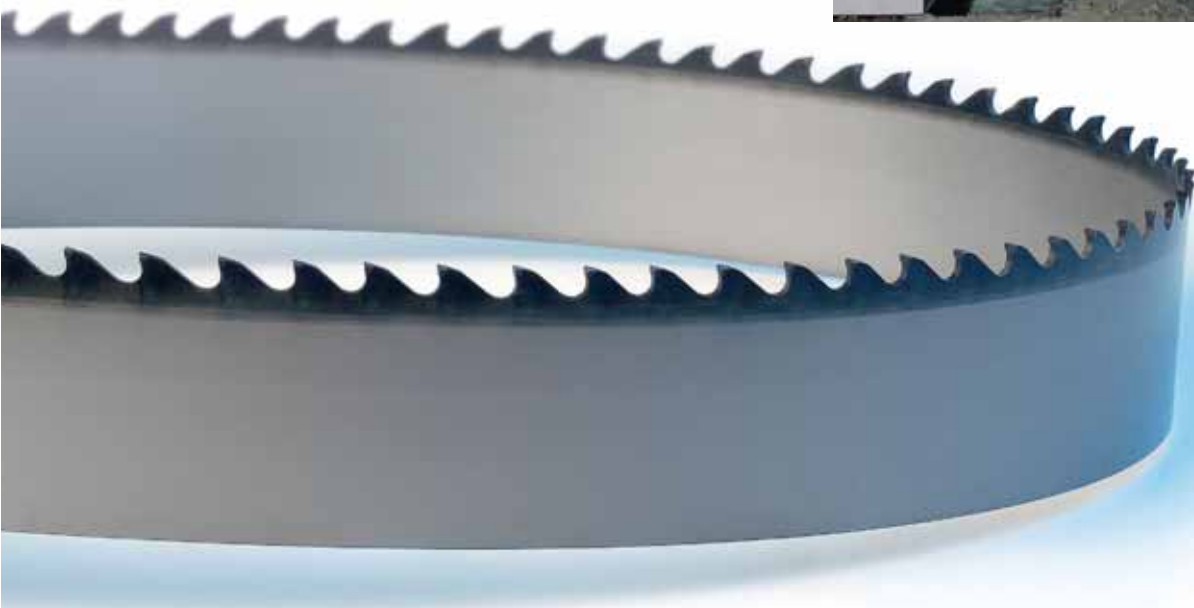
Forces heat into the chips rather than the blade or workpiece

**HIGH QUALITY, MICRO-GRAINED CARBIDE**

Tailored to cut a wide range of materials

**HIGH PERFORMANCE BACKING STEEL**

Excellent fatigue life



WIDTH x THICKNESS		TPI				APPLICATIONS
IN	MM	0.9/1.1	1.4/1.6	1.8/2.0	2.5/3.4	
1-1/4 x .042	34 x 1.07			●	●	Carbon steels, Alloy steels, Aluminum, Bearing steels, Stainless steels, Mold steels, Tool steels, Titanium alloys, Bundled, mild steel tubing
1-1/2 x .050	41 x 1.27		●	●	●	
2 x .063	54 x 1.60	●	●	●	●	
2-5/8 x .063	67 x 1.60	●	●	●		
3 x .063	80 x 1.60	●				

**EXTREME CUTTING RATES!**

Ground Tooth Bi-metal Blade 25 minutes

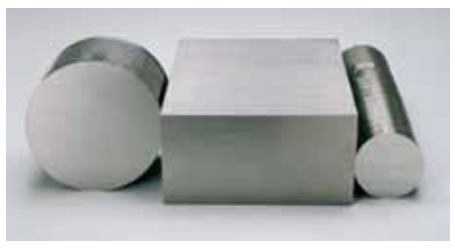
**ARMOR™ CT BLACK** ← 47 SECONDS!

Minutes 0 5 10 15 20 25

Material: 6-1/2" (152mm) Round 17-4 PH Stainless Steel  
Based on internal test results.



(see page 8 for details)



### TNT CT™

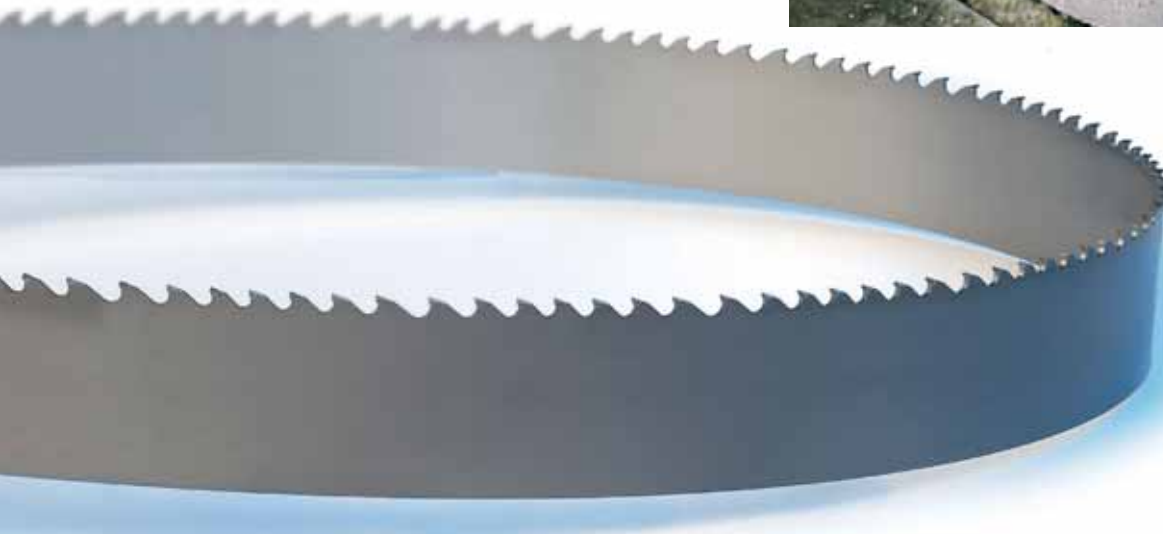
Extreme Performance on Super Alloys

**NEW GRADE OF CARBIDE AND SPECIAL GROUND TOOTH FORM**

Superior wear resistance when sawing difficult to cut materials.

**NEW HIGH PERFORMANCE BACKING STEEL**

Excellent fatigue life.



WIDTH x THICKNESS		TPI				APPLICATIONS
IN	MM	0.9/1.1	1.4/1.8	1.8/2.0	2.5/3.4	
1-1/4 x .042	34 x 1.07			●	●	Titanium, Titanium alloys, Inconel®, Aerospace, Nickel-base alloys, Stainless steels, High chrome alloys, Tool steels, Specialty steels, Aluminum
1-1/2 x .050	41 x 1.27	●	●	●	●	
2 x .063	54 x 1.60	●	●	●	●	
2-5/8 x .063	67 x 1.60	●		●		
3 x .063	80 x 1.60	●				



(see page 8 for details)





# TRI-MASTER™

Versatile Carbide Tipped Blade

**PRECISION TRIPLE CHIP GRIND**

Smooth cuts, excellent finish.

**NEW HIGH PERFORMANCE BACKING STEEL**

Excellent fatigue life.



TOOTH FORM WIDTH x THICKNESS		VARI-TOOTH® TPI				STANDARD POSITIVE TPI	APPLICATIONS
IN	MM	1.2/1.8	1.5/2.3	2/3	3/4	3	
3/8 x .032	9.5 x 0.80				●	●	Abrasive non-ferrous materials, Wood cutting, Alloy steels, Tool steels, Bearing steels, Carbon steels, Stainless steels, Mold steels
1/2 x .025	12.7 x 0.64					●	
1 x .035	27 x 0.90			●	●		
1-1/4 x .042	34 x 1.07		●	●	●	●	
1-1/2 x .050	41 x 1.27	●		●	●	●	
2 x .063	54 x 1.60	●		●			
2-5/8 x .063	67 x 1.60	●					
3 x .063	80 x 1.60	●					



(see page 8 for details)



### HRC™

#### Carbide Tipped Blade for Case Hardened Materials

**HIGH QUALITY, MICRO-GRAINED CARBIDE**

Outstanding durability.

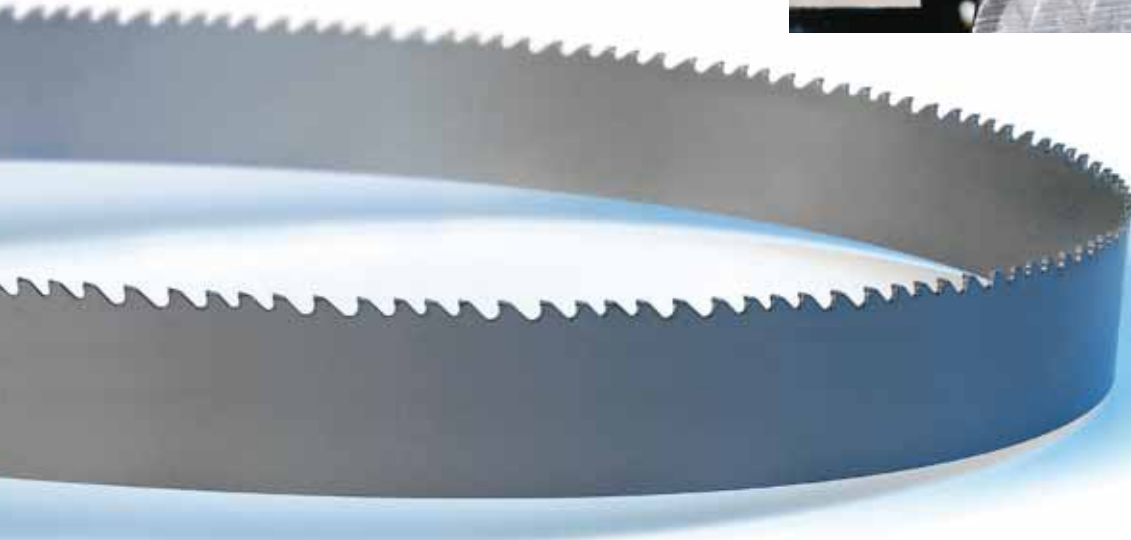
**STRONG TOOTH DESIGN**

0° rake angle, superior strip resistance.

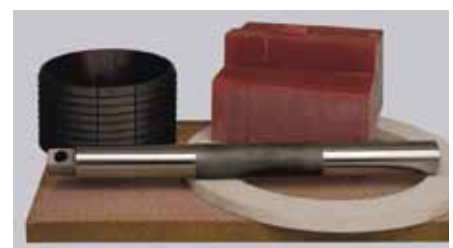
**NEW HIGH PERFORMANCE BACKING STEEL**

Excellent fatigue life.

**REPLACES ABRASIVE CUT-OFF OPERATIONS**



TOOTH FORM WIDTH x THICKNESS		VARI-TOOTH® TPI		STANDARD POSITIVE TPI	APPLICATIONS
IN	MM	2/3	3/4	3	
1 x .035	27 x 0.90			●	IHCP cylinder shafting, Ampco bronze, Case hardened materials, Tyre cutting, Railway track
1-1/4 x .042	34 x 1.07		●	●	
1-1/2 x .050	41 x 1.27		●		
2 x .063	54 x 1.60	●			



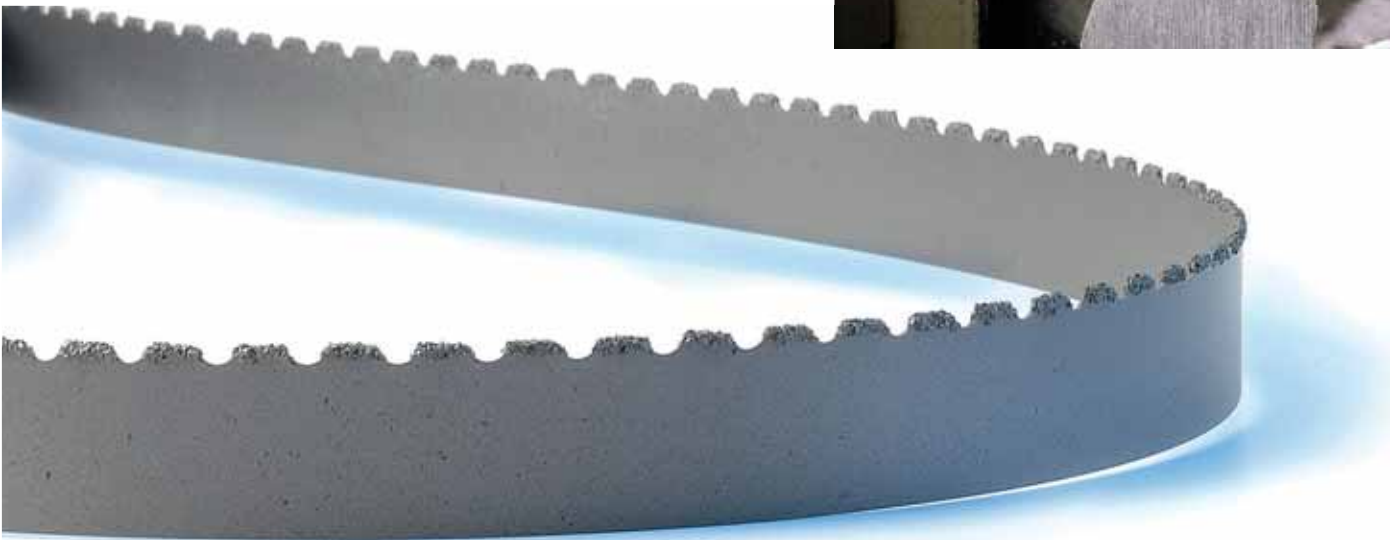
**MASTER-GRIT™**

Carbide Grit Edge Blade for Cutting Abrasive and Hardened Materials

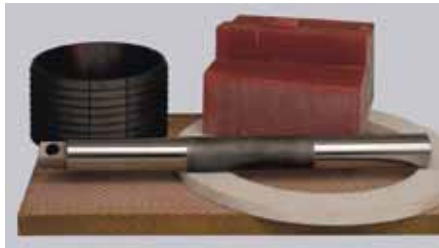
**TUNGSTEN CARBIDE PARTICLE GRIT**  
Metallurgically bonded edge.

**GULLETED**  
For applications greater than 1/4"(6.4mm) in cross-section.

**CONTINUOUS**  
For applications less than 1/4"(6.4mm) in cross-section.



EDGE PREPARATION GRIT WIDTH x THICKNESS		GULLETED			CONTINUOUS	APPLICATIONS
IN	MM	MEDIUM	MED-COARSE	COARSE	MEDIUM	
1/4 x .020	6.4 x 0.50				●	Fiberglass, Reinforced plastics, Graphite, Steel belted tires
3/8 x .025	9.5 x 0.64	●	●			
1/2 x .025	12.7 x 0.64	●	●		●	
3/4 x .032	19 x 0.80		●	●		
1 x .035	27 x 0.90		●	●	●	
1-1/4 x .042	34 x 1.07			●		



## CAST MASTER™

Superior Performance When Sawing Castings

### EXCEPTIONAL BLADE LIFE IN HAND FED FOUNDRY APPLICATIONS

Sub-micron grade carbide teeth designed for cutting aluminum and non-ferrous parts. Precision grind on the rake face prevents material build up on tooth edge

### CUTS PARTS FREELY WITH LIMITED FEED PRESSURE

Optimised rake angle and narrow kerf enable high speed cutting without pulling the part. Multi-chip tooth design reduces cutting forces and limits vibration

### HIGH ALLOY BACKING STEEL INCREASES FATIGUE LIFE

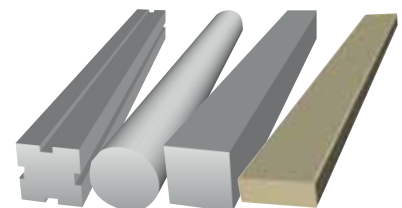
Advanced backing steel preparation minimizes band breaks



WIDTH x THICKNESS		TPI				APPLICATIONS
IN	MM	2	2/3	3	3/4	
3/4 x .035	19 x 0.90			●*	●	Aluminium / Non-ferrous, Wood, Castings, Composites, Gates and Risers
1 x .035	27 x 0.90		●	●*	●	
1-1/4 x .042	34 x 1.07	●	●	●	●	

● = Multi-chip design

\* = Set Style





# CARBIDE PRODUCT SELECTION CHART

HIGH PERFORMANCE	ALUMINUM/ NON-FERROUS	CARBON STEELS	STRUCTURAL STEELS	ALLOY STEELS	BEARING STEELS	MOLD STEELS	STAINLESS STEELS	TOOL STEELS	TITANIUM ALLOYS	NICKEL-BASED ALLOYS (INCONEL®)
	EASY ← MACHINABILITY → DIFFICULT									
	<b>ARMOR® CT BLACK</b> Extreme Cutting Rates									
	<b>LENOX® TNT CT®</b>					<b>LENOX® TNT CT®</b> Extreme Performance on Super Alloys				
	<b>TRI TECH CT™</b>			<b>TRI TECH CT™</b> Set Style Carbide for Difficult to Cut Metals						
	<b>TRI-MASTER®</b> Versatile Carbide Tipped Blade									
SPECIAL APPLICATION	WOOD	COMPOSITES	ALUMINUM (Including Alum. Castings)	CASE HARDENED MATERIALS (Including IHCP Cylinder Shafts)	OTHER (COMPOSITES, TIRES, ETC.)					
	EASY ← MACHINABILITY → DIFFICULT									
	<b>CAST MASTER™</b> Superior Performance When Sawing Castings									
	<b>TRI-MASTER®</b>			<b>LENOX® HRc®</b> Carbide Tipped Blade for Case and Through-Hardened Materials						
	<b>MASTER-GRIT®</b>			<b>MASTER-GRIT®</b> Carbide Grit Edge Blade for Cutting Abrasive and Hardened Materials						

For Technical Assistance see us on the web at [www.lenox.eu](http://www.lenox.eu) or contact your LENOX® Technical Representative.

## CARBIDE TOOTH SELECTION

### ARMOR® CT BLACK

		WIDTH OR DIAMETER OF CUT													
INCHES		1	2.5	3	4	5	6	7	8	10	12	13	15	17	20+
MM		25	60	70	100	120	150	170	200	250	300	330	380	430	500+
		0.6/0.8TPI													
		0.9/1.1TPI													
		1.4/1.6TPI													
		1.8/2.0TPI													
		2.5/3.4TPI													

### LENOX® TNT CT®

		WIDTH OR DIAMETER OF CUT																
INCHES		1	2.5	3	4	5	6	7	8	10	12	13	15	16	17	18	20	34+
MM		25	60	70	100	120	150	170	200	250	300	330	380	410	430	460	500	865
		0.9/1.1TPI																
		1.4/1.8TPI																
		1.8/2.0TPI																
		2.5/3.4TPI																

### TRI-TECH CT®

		WIDTH OR DIAMETER OF CUT													
INCHES		1	2.5	3	4	5	6	7	8	10	12	13	15	17	20+
MM		25	60	70	100	120	150	170	200	250	300	330	380	430	500+
		0.6/0.8TPI													
		0.9/1.1TPI													
		1.4/1.8TPI													
		1.8/2.0TPI													
		2.5/3.4TPI													

### TRI-MASTER® • LENOX® HRc® • CAST MASTER™

		WIDTH OR DIAMETER OF CUT													
INCHES		1	2.5	3	4	5	6	7	8	10	12	13	15	17	20
MM		25	60	70	100	120	150	170	200	250	300	330	380	430	500
		1.2/1.8TPI													
		1.5/2.3TPI													
		2/3TPI													
		3TPI													
		3/4TPI													



# CARBIDE SPEED CHART

Material		ARMOR® CT BLACK		LENOX® TNT CT®		TRI-TECH™		TRI-MASTER®		CAST MASTER™		LENOX® HRC®	
TYPE	GRADE	FPM	MPM	FPM	MPM	FPM	MPM	FPM	MPM	FPM	MPM	FPM	MPM
Aluminum Alloys	2024, 5052, 6061, 7075			3,500-8,500*	1000-2600	3,500 - 8,500	1,000 - 2,600	3,500-8,500*	1000-2600	3,500-8,500*	1000-2600		
Copper Alloys	CDA 220 CDA 360 Cu Ni (30%) Be Cu			240 300 220 180	75 90 65 55	240 300 220 180	73 91 67 55	210 295 200 160	65 90 60 50	210 295 200 160	65 90 60 50	280	85
Bronze Alloys	AMPCO 18 AMPCO 21 AMPCO 25 Leaded Tin Bronze Al Bronze 865 Mn Bronze 932 937			205 180 115 300 200 220 300 300	60 55 35 90 60 65 90 90	205 180 115 300 180 220 300 300	62 55 35 91 55 67 91 91	180 160 110 290 150 215 280 250	55 50 35 90 45 65 85 75	180 160 110 290 150 215 280 250	55 50 35 90 45 65 85 75		
Brass Alloys	Cartridge Brass Red Brass (85%) Naval Brass			300 230	80 70	240 230	73 70	220 200	65 60			220 200	65 60
Leaded, Free Machining Low Carbon Steels	1145 1215 12L14	370 425 450	115 130 135			290 325 350	88 99 107	290 325 350	90 100 105				
Structural Steel	A36	350	105										
Low Carbon Steels	1008, 1018 1030	310 290	95 90			250 240	76 73	250 240	75 75			270** 250**	80 75
Medium Carbon Steels	1035 1045	285 275	85 85			230 220	70 67	230 220	70 65			240** 230**	75 70
High Carbon Steels	1060 1080 1095	260 250 240	80 75 75									200** 195** 185**	60 60 55
Mn Steels	1541 1524	260 240	80 75										
Cr-Mo Steels	4140 41L50 4150H	300 310 290	90 95 90			220 250	67 76						
Cr Alloy Steels	6150 52100 5160	315 300 315	95 90 95			190 190	58 58						
Ni-Cr-Mo Steels	4340 8620 8640 E9310	300 310 305 315	90 95 95 95			190 190	58 58						
Low Alloy Tool Steel	L-6	300	90	240	75	240	73	190	60				
Water-Hardening Tool Steel	W-1	300	90	240	65	220	67	175	55				
Cold-Work Tool Steel	D-2	240	75	210	65	210	64	170	50				
Air-Hardening Tool Steels	A-2 A-6 A-10	270 240 190	80 75 60	230 220 160	70 65 50	230 220 160	70 67 49	185 175 130	55 55 40				
Hot Work Tool Steels	H-13 H-25	240 180	75 55	220 150	55 45	220 150	67 46	175 120	55 35				
Oil-Hardening Tool Steels	O-1 O-2	260 240	80 75	240 220	75 65	240 220	73 67	190 175	60 55				
High Speed Tool Steels	M-2, M-10 M-4, M-42 T-1 T-15	140 130 120 100	45 40 35 30	110 105 100 80	35 30 30 25	110 105 100 80	34 32 30 24	90 85 80 65	25 25 25 20				
Mold Steels	P-3 P-20	300 280	90 85	200 160	60 50	200 160	61 49	160 130	50 40				
Shock Resistant Tool Steels	S-1 S-5, S-7	220 200	65 60										
Stainless Steels	304 316 410,420 440A 440C	260 240 290 250 240	80 75 90 75 75	220 180 250 200 200	65 55 75 60 60	190 180 250 200 200	58 55 76 61 61	155 125 175 140 140	45 40 55 45 45			220 180 250 200 200	65 55 75 60 60
Precipitation Hardening Stainless Steels	17-4 PH 15-5 PH	300 300	90 90	160 140	50 45	160 160	49 49	110 100	35 30			160 140	50 45
Free Machining Stainless Steels	420F 301	340 320	105 100	270 230	80 70	270 230	82 70	190 160	60 50			270 230	80 70
Nickel Alloys	Monel® K-500 Duranickel® 301			90 80	25 25	90 80	27 24	90 80	25 25				
Iron-Based Super Alloys	A286, Incoloy® 825 Incoloy 600 Pyromet® X-15			80 75 90	25 25 25	105 85 90	32 26 27	80 75 90	25 25 25				
Nickel-Based Alloys	Inconel® 600, Inconel 718 Nimonic® 90 NI-SPAN-C® 902, RENE® 41 Inconel® 625 Hastalloy B, Waspalloy Nimonic® 75, RENE® 88			85 85 115 75 75	25 25 35 25 25	105 100 105 105 105	32 30 32 32 32	85 85 115 75 75	25 25 35 25 25				
Titanium Alloys	CP Titanium Ti-6Al-4V	230 230	70 70	180 180	55 55	180 180	55 55	150 150	45 45				
Cast Irons	A536 (60-40-18) A536 (120-90-02) A48 (Class 20) A48 (Class 40) A48 (Class 60)	360 175 250 160 115	110 55 75 50 35										

FPM = Feet Per Minute MPM = Metres Per Minute \* For metal cutting saws run between 275 and 360 FPM (84 and 107 MPM) \*\* Typically for hardened and case hardened carbon steels up to 61 Rc.

**QXP™**

Long Blade Life At High Cutting Rates

**LONG LIFE. FAST CUTTING**

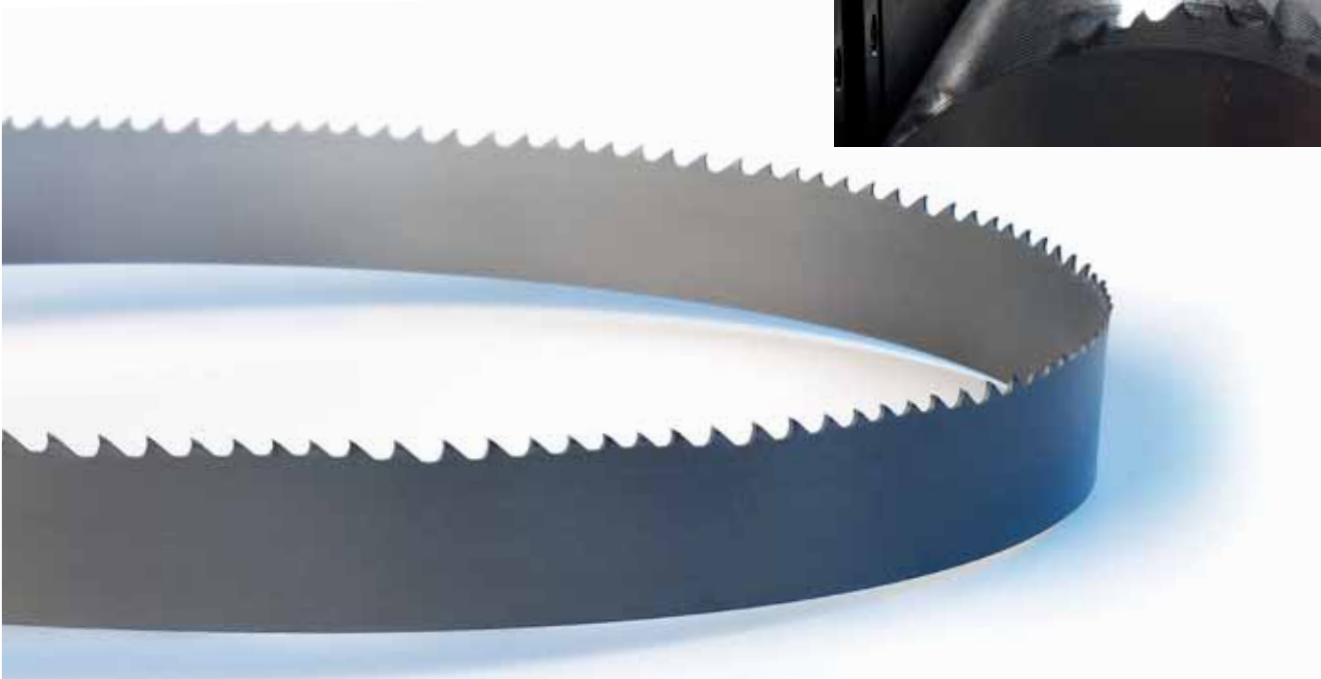
Solids of mild to moderate machinability. Proprietary backing steel preparation provides increased fatigue life.

**PENETRATES WITH LESS FEED FORCE**

Extreme positive rake tooth form

**INCREASED CUTTING RATES**

Deep gullet design



WIDTH x THICKNESS		TPI						APPLICATIONS
IN	MM	1.0/1.3	1.5/2.0	2/3	3/4	4/6	5/8	
3/4 x .035	19 x 0.90					*●		Aluminum/Non-Ferrous, Carbon Steels, Alloy Steels, Bearing Steels, Mold Steels, Stainless Steels, Tool Steels, Heavy walled tubing
1 x .035	27 x 0.90			●	●	●	●	
1-1/4 x .042	34 x 1.07		●	●	●	●	●	
1-1/2 x .050	41 x 1.27		●	●	●	●		
2 x .063	54 x 1.60	●	●	●	●	●		
2-5/8 x .063	67 x 1.60	●	●	●	●			
3 x .063	80 x 1.60	●						

\* = LXP



(see page 8 for details)



## CONTESTOR GT™

High Performance Bi-metal Blade

**GT: GROUND TOOTH**

Cuts with less feed pressure.

**HIGH SPEED, STEEL EDGE MATERIAL**

M-42 standard; M-51 available as listed below.

**UNIQUE GULLET DESIGN**

Increased beam strength.

**USE WHEN TOOL LIFE AND CUTTING ACCURACY ARE MOST IMPORTANT**

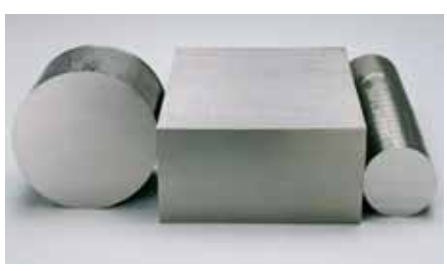


WIDTH x THICKNESS		TPI						APPLICATIONS
IN	MM	0.7/1.0	1.0/1.3	1.4/2.0	2/3	3/4	4/6	
1 x .035	27 x 0.90				●	●	●	Aluminum/Non-Ferrous, Carbon Steels, Alloy Steels, Bearing Steels, Mold Steels, Stainless Steels, Tool Steels, Heavy walled tubing
1-1/4 x .042	34 x 1.07			◆	◆	◆	◆	
1-1/2 x .050	41 x 1.27			◆	◆■	◆■	◆	
2 x .050	54 x 1.27		◆	◆	◆			
2 x .063	54 x 1.60	◆	◆	◆	◆■	◆		
2-5/8 x .063	67 x 1.60	◆	◆■	◆■	◆			
3 x .063	80 x 1.60	◆	◆	◆				

- = Milled Tooth
- ◆ = Ground Tooth
- = M-51 Edge



(see page 8 for details)





# RX<sup>®</sup>+

Engineered to Cut structurals, Tubing and Bundles

**REINFORCED TOOTH DESIGN**

For long life and extreme durability.

**UNIQUE, PATENTED TOOTH PROFILE**

Powers through interrupted cuts. Eliminates tooth strippage.

**UNIQUE, PATENTED TOOTH PITCH/SET SEQUENCE**

Minimizes vibration and equalizes tooth loading. This eliminates harmonics and significantly reduces noise levels.

**M-42 HIGH SPEED STEEL TOOTH EDGE**

For durability.



WIDTH x THICKNESS		TPI					APPLICATIONS
IN	MM	2/3	3/4	4/6	5/8	10/14	
5/8 x .032	16 x 0.80					*	Large cross-section profiles, Bundled structural steel and tubing
3/4 x .035	19 x 0.90			●	●		
1 x .035	27 x 0.90	●	●	●	●		
1-1/4 x .042	34 x 1.07	●†	●†	●†	●		
1-1/2 x .050	41 x 1.27	●†	●†	●†	●		
2 x .050	54 x 1.27	●	●†	●	●		
2 x .063	54 x 1.60	●†	●†	●			
2-5/8 x .063	67 x 1.60	●†	●†	●			

† = Extra heavy set available to prevent blade pinching

\* = Matrix Edge



### ARMOR™ RX®+

For Extended Blade Life and Increased Productivity

**ALL THE ADVANTAGES OF RX®, PLUS:**

**ALTIM ARMOR FOR PRODUCTIVITY & BLADE LIFE**

Aluminium, Titanium and Nitrogen combine to form a coating that is hard and tough, protecting each tooth from heat and wear with an armor-like barrier. ARMOR allows for low thermal conductivity that forces heat into the chips rather than the blade or work piece.



WIDTH x THICKNESS		TPI			APPLICATIONS
IN	MM	2/3	3/4	4/6	
1-1/4 x .042	34 x 1.07		●		Large cross-section profiles, Bundled structural steel and tubing
1-1/2 x .050	41 x 1.27	●	●†	●†	
2 x .063	54 x 1.60	●	●†		

† = Also available as Extra Heavy Set

#### EXTENDED BLADE LIFE

Bi-Metal Blade

 80 Cuts

**ARMOR™ Rx®+**

**200 CUTS – 2 1/2 x LONGER BLADE LIFE!**

0 50 100 150 200

Material – Bundled Tubing

Based on external customer-based testing



# CLASSIC™

The Ultimate Multi-Purpose Blade

**SHALLOW GULETS**

For increased beam strength.

**PATENTED TUFF TOOTH™ DESIGN**

For strip resistance.

**M-42 HIGH SPEED STEEL EDGE**

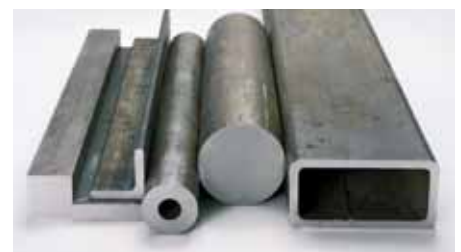
For durability.



TOOTH FORM WIDTH x THICKNESS		TUFF-TOOTH® TPI		VARI-TOOTH® TPI				WAVY TPI		HOOK TPI	APPLICATIONS
IN	MM	4/6	6/8	5/8	6/10	8/12	10/14	14	18	3	
3/4 x .035	19 x 0.90	●	●	●	●	●	●	●	●	●	
1 x .035	27 x 0.90	●	●	●	●	●	●	●	●	●	
1-1/4 x .042	34 x 1.07	●	●	●	●	●					

Carbon steels, Light alloy steels, Mold steels, Tool steels, Stainless steels

† = Extra heavy set available to prevent blade pinching



## CLASSIC PRO™

The Ultimate Multi-Purpose Blade for Production Cutting

### EXCEPTIONAL BLADE LIFE

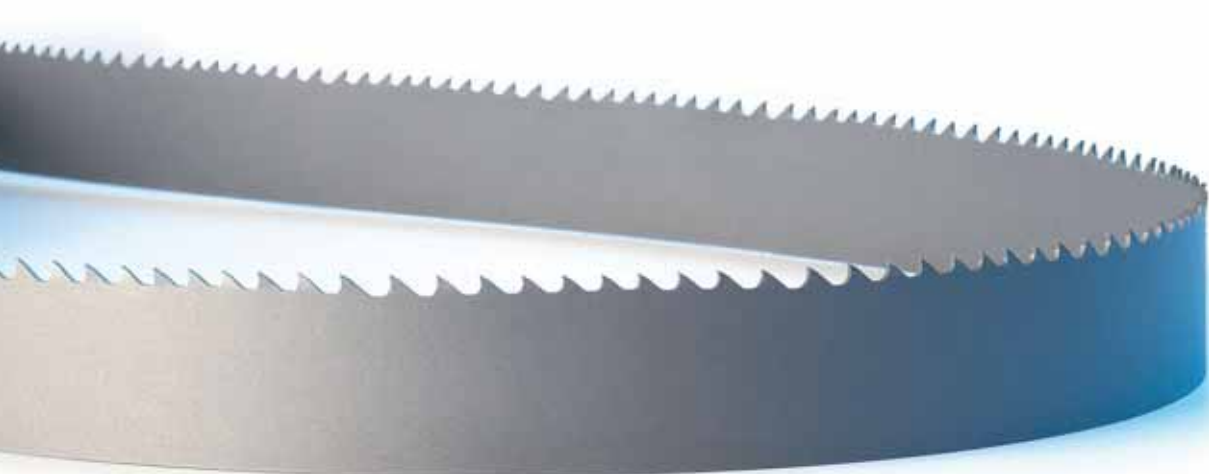
Proprietary backing steel preparation increases fatigue life. Robust M42 high speed steel edge provides superior heat and wear resistance

### EXTREMELY VERSATILE

Cuts a wide range of metals from low carbon steels to higher strength alloys  
Advanced design enables production cutting of solids and structurals  
Positive rake angle improves tooth penetration on saws with limited feed force

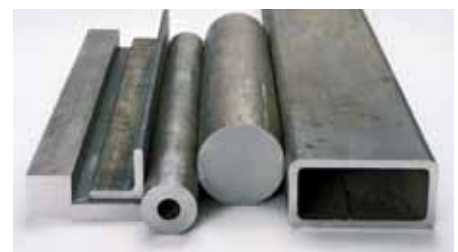
### CONSISTENT PERFORMANCE CUT AFTER CUT

Unique tooth geometry and set minimizes noise and vibration from the first cut



TOOTH FORM WIDTH x THICKNESS		TPI					APPLICATIONS
IN	MM	1.4/2.0	2/3	3/4	4/6	5/8	
1 x .035	27 x 0.90		●	●	●	●	
1-1/4 x .042	34 x 1.07	●	●	●	●	●	
1-1/2 x .050	41 x 1.27	●	●	●†	●	●	
2 x .050	54 x 1.27		●	●	●		
2 x .063	54 x 1.60	●	●†	●†	●		
2-5/8 x .063	67 x 1.60	●	●†	●†			

† = Extra heavy set available to prevent blade pinching





## DIEMASTER 2®

Engineered for Contour Cutting

**M-42 HIGH SPEED STEEL TOOTH EDGE**

For durability.

**DESIGNED TO RUN AT HIGH SPEED**

Runs at twice the speed of carbon.

**INCREASED BLADE LIFE**

Lasts 10 times longer than carbon blades.

**GENERAL PURPOSE HAND-FED APPLICATIONS**

Tool and die shops, machine shops, maintenance facilities.



TOOTH FORM WIDTH x THICKNESS		VARI-TOOTH® TPI				STANDARD TPI				HOOK TPI			APPLICATIONS
IN	MM	6/10	8/12	10/14	14/18	10	14	18	24	3	4	6	
1/4 x .025	6.4 x 0.64			●	●							●	
1/4 x .035	6.4 x 0.90			●								●	
3/8 x .025	9.5 x 0.64			●	●								
3/8 x .035	9.5 x 0.90					●					●	●	
1/2 x .020	12.7 x 0.50			*			*	*	*				
1/2 x .025	12.7 x 0.64	●	●	●	●		●	●			●	●	
1/2 x .035	12.7 x 0.90					●	●			●	●	●	

\* = Matrix Edge



## BI-METAL PRODUCT SELECTION

	ALUMINUM/ NON-FERROUS	CARBON STEELS	STRUCTURAL STEELS	ALLOY STEELS	BEARING STEELS	MOLD STEELS	STAINLESS STEELS	TOOL STEELS	TITANIUM ALLOYS	NICKEL-BASED ALLOYS (INCONEL®)
	EASY ←				MACHINABILITY		→ DIFFICULT			
HIGH PERFORMANCE	<i>QXP™</i>		<i>QXP™</i> Long Life. Fast Cutting							
							<i>CONTESTOR GT®</i> Long Life. Straight Cuts			
			<i>ARMOR® RX®+</i> Long Life. Structurals/Bundles							
			<i>LENOX® RX®+</i> Long Life. Structurals/Bundles							
GEN. PURPOSE	<i>CLASSIC PRO™</i> Long Life. Extremely Versatile						<i>CLASSIC PRO™</i>			
	<i>LENOX CLASSIC®</i> 3/4" and Wider Blades						<i>LENOX CLASSIC®</i>			
	<i>DIEMASTER 2®</i> 1/2" and Narrower Blades						<i>DIEMASTER 2®</i>			

For Technical Assistance see us on the web at [www.lenox.eu](http://www.lenox.eu) or contact your LENOX® Technical Representative.

## BI-METAL PRODUCT SELECTION CHART

These figures are a guide to cutting 4" (100mm) material with a bi-metal blade and flood sawing fluid:

Adjust Band Speed for Different Sized Materials

Material:	Band Speed:
1/4" (6mm)	Chart Speed + 15%
3/4" (19mm)	Chart Speed + 12%
1-1/4" (32mm)	Chart Speed + 10%
2-1/2" (64mm)	Chart Speed + 5%
4" (100mm)	Chart Speed =
8" (203mm)	Chart Speed - 12%

- Reduce band speed 15% when using *MICRONIZER®* lubricants.
- Reduce band speed 30%–50% when sawing without fluid.
- Reduce band speed 50% when sawing with carbon blades.

For Heat Treated Materials

DECREASE Band Speed:	WHEN CUTTING HARDER MATERIAL:	
	Rockwell	Brinell
0%	Up to 20	226
5%	22	237
10%	24	247
15%	26	258
20%	28	271
25%	30	286
30%	32	301
35%	36	336
40%	38	353
45%	40	371

# BI-METAL SPEED CHART

PPM = Feet Per Minute PM = Metres Per Minute \* These speeds are for cutting aluminum on metal cutting saws. Production aluminum cutting houses typically use high speed production saws that cut at speeds from 3,500-8,500 FPM. (1,000 - 2600 MPM)

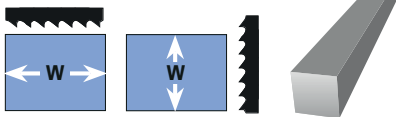
Material	Band Speed (feet/min)	Band Speed (metres/min)	U.S Designation	EN	BS970	DIN	Stoff.(Germany)	UNI (Italy)	AFNOR (France)
Copper Alloys	210	64	CDA 220			CuZn10	2.0230	P-CuZn10 4899	CuZn10
	295	90	CDA 360			CuZn36Pb3	2.0375		CuZn36Pb3
	200	61	Copper Nickel (30%)			17658 G-CuNi30			
Bronze Alloys	160	49	Beryllium Copper			CuBe2			
	180	55	AMPCO 18						
	160	49	AMPCO 21						
Leaded, Free Machining Low Carbon Steels	110	34	AMPCO 25						
	290	88	Leaded Tin Bronze			GB-CuPb10Sn			
	150	46	Alum.Bronze 932			BG-CuAl10Fe			
	215	66	Manganese Bronze 865			GB-CuZn35Al1			
	280	85	937			GB-CuSn7ZnPb	2.1091		CuSn7
Brass Alloys	250	76	Cartridge Brass			GB-CuPb10Sn			CuSn7Pb6Zn4
	220	67	85% - Red Brass						
	220	67	Naval Brass			GB-CuSn5ZnPb			
Structural Steels/Profiles Low Carbon Steels	200	61	1145						
	270	82	1215			A40			
	325	99	12L14			9SMn36	1.0736		
Medium Carbon Steels	350	107	A36 (Shapes)			9SMnPb36	1.0718		S200Pb
	295	90	1008				1.0132		
	270	82	1018	32C	080M15	ST12	1.031	3CD8	
High Carbon Steels	270	82	1030	2C	040A22	C16.8	1.0453		AF42C20
	250	76	1035	5A	080A27	Ck30	1.1178	C 30	XC32
	240	73	1045	5C	080A32	C35	1.0501	C 35	AF55C35
Mn Steels	230	70	1060	8D	080A42	Ck45	1.0503, 1.1191	C45	2C 45, AF65C45
	200	61	1080	8C	080A40	Ck60		1.0601	XC60
	195	59	1095			Ck80			
Cr-Mo Steels	185	56	1541			Ck101	1.0618	C100	XC100
	200	61	1524			36Mn5 & GS-36Mn5	1.1167		45 M5
	170	52	4140			22Mn6			
Cr Alloy Steels	225	69	41L50	19A	708M40	41CrMo4	1.7225	G 40 CrMo 4	40 CD 4
	235	72	4150H			50CrMoPb4			
	200	61	6150			(GS-)58CrMnMo443			
Ni-Cr-Mo Steels	190	58	52100		735A50	(GS)50CrV4	1.8159	50 Cr V 4	50 CV 4
	160	49	5160	40B	722M24	100Cr6	1.3505	100 Cr 6	100C6
	195	59	4340	18A	530A30	65MnCr4	1.7176	55 Cr3	55 C 3
Stainless Steels	195	59	8620		817M40	40NiCrMo6	1.6562	40 NiCrMoM 7	
	215	66	8640		805M17	21NiCrMo2	1.6523	20 NiCrMo2	20 NCD 2
	185	56	9310		945M38	40NiCrMo22	1.6546	40NiCrMo2KB	40NCD2TS
Low Alloy Tool Steel	160	49	304, 304H		830M31	14CrMo13-4	1.6657	15 NiCrMo 13	16 NCD 13
	115	35	316	58E	304S15	X5CrNi18 10	1.4301	X5 CrNi 18 10	Z6 CN 18-09
	90	27	410	58Jor58J	315S16	X5CrNiMo1810	1.4401	X5CrNiMo17 12	Z6CND17-11
Water-Hardening Tool Steel	135	41	420	56A	410S21	X15Cr13	1.4006	X 10Cr 13	Z10 C 13
	135	41	440A	1.4021	420S45	X20Cr13	1.4021	X 20 Cr 13	Z20C13
	80	24	440C			X 65CrMo14 & X55CrMo14			
Cold-Work Tool Steel	70	21	L-6			X110CrMo17	1.4125		Z100 CD 17
	145	44	W-1			(G)56NiCrMoV7	1.2714		55NCDV7
	145	44	D-2			C105W2	1.1673	C 140 KU	1200Y21140
Air-Hardening Tool Steels	90	27	A-2			X155CrVMo121	1.2379	X155CrVMo12	Z160CDV12
	190	58	A-6			(G)X100CrMoV51	1.2363	X100CrMoV5 1KU	Z100CDV5
	135	41	A-10						
Hot-Work Tool Steels	100	30	H-13						
	140	43	H-11			(G-)X40CrMoV51	1.2344	X40CrMoV511KU	Z40CDV5
	90	27	O-1			(G-)X38CrMoV51	1.2343	X37CrMoV51KU	Z38CDV5
Oil-Hardening Tool Steels	180	55	O-2			100MnCrW4	1.2510	95MnWCr5KU	
	135	41	M-2			90MnCrV8			
	105	32	M-42			S6-5-2 & SC6-5-2	1.3343	HS6-5-2	4301 6-5-2
High Speed Tool Steels	95	29	T-1			S2-10-1-8	1.3247	HS 2-9-1-8	4475 2-9-1-8
	90	27	T-15			S18-0-1	1.3355	HS18-0-1	4201 18-0-1
	60	18	P-3			S12-1-4-5	1.3202	HS12-1-5-5	4171 12-0-5-5
Mold Steels	180	55	P-20			13NiCr6			
	165	50	S-1			45 CrMoV7 & 35CrMo4	1.2328	35CrMo8KU	35CMD7
	140	43	S-5			45WCrV7	1.2542	55WCrV8KU	55WC20
Shock Resistant Tool Steels	125	38	17-4 PH			70Si7	1.2823	58SiMo8KU	
	70	21	15-5 PH			X5CrNiCuNb174	1.4542		Z6NU17.04
	70	21	420F			X4CrNiCuNb164	1.4545		
Precipitation Hardening Stainless Steels	150	46	301			X20Cr13			
	125	38	MONEL K-500			X12CrNi177			
	70	21	Duranickel 301			NiCu 30 Al	2.4375		
Nickel Alloys	55	17	A286						
	80	24	Incoloy 800			X5NiCrTi25-15	1.4980		Z6NCTDV25.15B
	55	17	Incoloy 825			X10NiCrAlTi32-20	1.4876		Z8NC32-21
Iron Base Super Alloys	80	24	Pyromet			NiCr 21 Mo	2.4858		
	70	21	Inconel 600						
	60	18	Inconel 625			NiCr 15 Fe	2.4816		
Nickel Base Alloys	80	24	Inconel 718			NiCr 22 Mo 9 Nb	2.4831		
	60	18	Hastalloy B			NiCr19NbMo	2.4668		
	55	17	Waspalloy			NiMo 30	2.4800		
Titanium Alloys	55	17	Nimonic90			NiCr 19 Co 14 Mo 4 Ti	2.4654		
	60	18	Nimonic 75			NiCr 20 Co 18 Ti			
	50	15	NI-SPAN			NiCr 20 Ti	2.4951		
Cast Irons	60	18	RENE 41						
	60	18	RENE 88			NiCr19CoMo	2.4973		
	50	15	CP Titanium						
Cast Irons	85	26	Ti-6Al-4V						
	65	20	60-40-18				3.7615		
	225	69	120-90-02			1693 GGG40	0.7040	GS 400-12	FSG400-12
Cast Irons	110	34	Class 20			1693 GGG80	0.7080	GS800-2	
	160	49	Class 40			1691 GG10/1691 GG15	0.6010	Ft 10 D	
	115	35	Class 60			1691 GG25	0.6025	Ft 25 D	
	95	29				1691 GG40	0.6040	Ft 40 D	

## BI-METAL TOOTH SELECTION

1. Determine size and shape of material to be cut.
2. Identify chart to be used (square solids, round solids, or tubing/structurals).
3. Read teeth per mm/inch next to material size.

### SQUARE/RECTANGLE SOLID Locate width of cut (W)

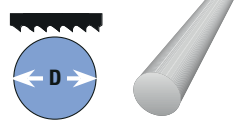
Width of cut (W)



		WIDTH OF CUT																				
MM		5	10	15	20	25	50	75	100	200	300	400	500	600	700	800	900	1000	1100	1200		
IN		.1	.2	.3	.4	.5	.6	.7	.8	.9	1	2	5	10	15	20	25	30	35	40	45	50
TPI		14/18	10/14	8/12	6/8	6/10	5/8	4/6	3/4	2/3	1.5/2.0	1.4/2.0	1.0/1.3		.7/1.0							

### ROUND SOLID Locate diameter of cut (D)

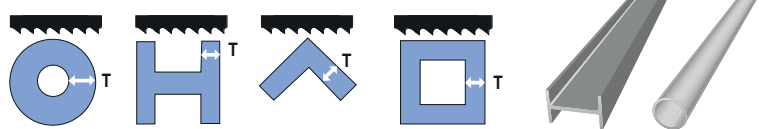
Diameter (D)



		DIAMETER OF CUT																					
MM		5	10	15	20	25	50	75	100	150	200	250	300	350	400	500	600	700	800	900	1000	1100	1200
IN		.1	.2	.3	.4	.5	.6	.7	.8	.9	1	2	5	10	15	20	25	30	35	40	45	50	
TPI		14/18	10/14	8/12	6/8	6/10	5/8	4/6	3/4	2/3	1.5/2.0	1.4/2.0	1.0/1.3		.7/1.0								

### TUBING/PIPE/STRUCTURALS Locate wall thickness (T)

Wall thickness (T)



		WALL THICKNESS															
MM		1	2	3	4	5	6	7	8	9	10	15	20	25	30	40	50
IN		.05	.10	.15	.20	.25	.30	.40	.50	.60	.70	.80	.90	1	1.5	2	
TPI		14/18	10/14	8/12	6/8	6/10	5/8	4/6		3/4			2/3				

## NEO-TYPE®

Hard Back Carbon Steel Blade

### HARDENED BACK BLADES

#### GREAT FOR CUTTING MILD STEELS

At slower speeds, due to a blade design that features both hardened teeth and a hardened back.



TOOTH FORM SET PATTERN WIDTH x THICKNESS		STANDARD RAKER TPI					WAVY TPI	HOOK RAKER TPI		APPLICATIONS
IN	MM	6	8	10	14	18	24	3	4	
1/4 x .025	6.4 x 0.64			●	●	●	●			
3/8 x .025	9.5 x 0.64		●	●	●	●				
1/2 x .025	12.7 x 0.64	●	●	●	●	●	●		●	
5/8 x .032	16 x 0.80			●	●					
3/4 x .032	19 x 0.80	●	●	●	●	●				
1 x .035	25.4 x 0.90	●	●	●	●			●		



## FLEX BACK

Versatile Carbon Steel Blade

### VERSATILE PERFORMANCE

Our hardened tooth tip/flexible back heat treating enables these blades to cut a variety of materials well at fairly high band speeds.

### APPLICATIONS

Hand-fed applications on vertical saws, non-ferrous metals, abrasive materials, wood cutting applications.

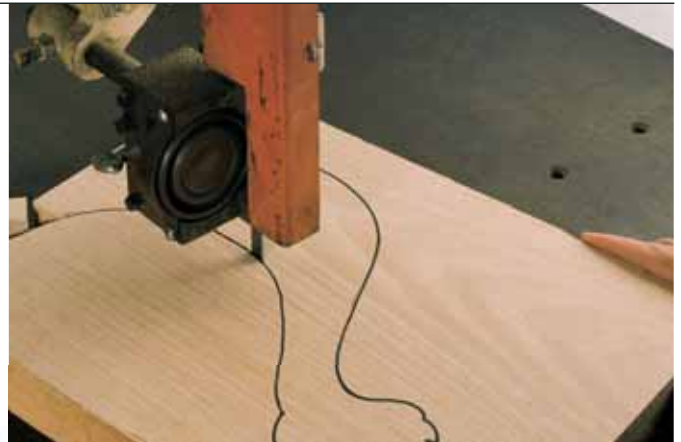


TOOTH FORM SET PATTERN WIDTH x THICKNESS		HOOK RAKER TPI				ALTERNATE TPI	SKIP RAKER TPI	APPLICATIONS
IN	MM	2	3	4	6	2	1	
1/4 x .025	6.4 x 0.64			●	●			
3/8 x .025	9.5 x 0.64		●	●	●			
1/2 x .025	12.7 x 0.64		●	●	●			
3/4 x .032	19 x 0.80	●	●	●	●			
1 x .035	25.4 x 0.90	●	●					
2 x .035	50.8 x 0.90					●		

## #32 WOOD

Specialised Wood Applications

#32 WOOD (.032) for contour cutting



TOOTH FORM SET PATTERN WIDTH x THICKNESS		HOOK					APPLICATIONS
IN	MM	RAKER TPI			ALTERNATE TPI		
		2	3	4	3	4	
1/4 x .032	6.4 x 0.80			●		●	
3/8 x .032	9.5 x 0.80		●	●	●	●	
1/2 x .032	12.7 x 0.80	●	●	●	●		

## FRICITION BAND

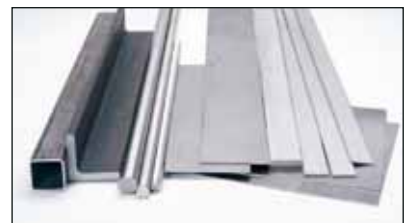
Increased Frictional Heat for Ferrous Metals

### INCREASED FRICTIONAL HEAT

Can be operated up to 20,000 feet per minute (6,100 metres per minute). For cutting ferrous metals up to 3/4" (18mm) thick.



TOOTH FORM SET PATTERN WIDTH x THICKNESS		STANDARD RAKER TPI	APPLICATIONS
IN	MM	10	
1 x .035	25.4 x 0.90	●	





## **BAND-ADE®**

Semi-Synthetic Sawing Fluid

**REDUCES MACHINE WEAR** and improves bandsaw blade tool life

**SURFACES CAN BE WELDED OR PAINTED OVER**

**GENTLE TO OPERATORS' HANDS;** does not remove oil from skin

**DOES NOT CONTAIN** chlorine, sulfur, silicone, petroleum oils or sulfonates

**BIODEGRADABLE**

Product Number	Item
68004	1 gallon / 3.8 litre container (packed 4 containers per case). No split cases
68005	2-1/2 gallon / 9.5 litre container (packed 2 containers per case). No split cases
68003	5 gallon / 18.9 litre container
68001	55 gallon / 208.2 litre drum



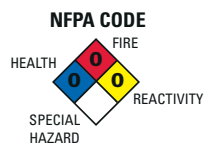
### HMIS/WHMIS

HEALTH INDEX – 0

FLAMMABILITY – 0

REACTIVITY – 0

PERSONAL PROTECTION – A



For industrial use only.

Not recommended for use as a spray lubricant.

Mix this product with water as recommended.

## **LENOX® MACHINE CLEANER**

Prepares your sump for the use of LENOX® Sawing Fluids

Product Number	Item
68006	1 gallon / 3.8 litre container (packed 4 containers per case). No split cases

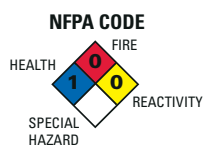
### HMIS/WHMIS

HEALTH INDEX – 1

FLAMMABILITY – 0

REACTIVITY – 0

PERSONAL PROTECTION – A



For industrial use only. Not recommended for use as a spray

Mix this product with water as recommended.





## SAW MASTER™

Synthetic Sawing Fluid

- LUBRICATES AND COOLS** for extended tool life
- REJECTS MOST TRAMP OILS** hydraulic and oils from materials
- SAFE TO USE;** non-irritating to the operator Low- to non-foaming
- LONGEST SUMP LIFE;** excellent anti-microbial package prevents rancidity
- CAN BE USED IN MOST HARD WATER APPLICATIONS**

Product Number	Item
68064	1 gallon / 3.8 litre container
68061	5 gallon / 18.9 litre container
68062	55 gallon / 208.2 litre drum

**HMIS/WHMIS**

HEALTH INDEX – 1  
 FLAMMABILITY – 0  
 REACTIVITY – 0  
 PERSONAL PROTECTION – A

**NFPA CODE**

FIRE  
 HEALTH  
 REACTIVITY  
 SPECIAL HAZARD

For industrial use only.  
 Not recommended for use as a spray lubricant.  
 Mix this product with water as recommended.



## ANTI -SPATTER

Spatter Just Wipes Away!

- NON-TOXIC, NON-EXPLOSIVE, NON-COMBUSTIBLE**
- NO SILICONE OR CHLORINE**
- ADVANCED 14 OUNCE CAN** Naturally compressed air (no propellants), easy to hold and use even with gloves. Sprays upside down!
- NO WASTED PRODUCT** Full use of all 14 ounces.
- PROTECTS JIGS AND FIXTURES**

Product Number	Item
69040	14 ounce / 397 grams compressed air can (packed 12 cans per case). No split cases
69041	32 ounce / 906 grams trigger spray bottle (packed 12 bottles per case). No split cases
69039	1 gallon / 3.8 litre container
69038	5 gallon / 18.9 litre container
69037	55 gallon / 208.2 litre drum

**HMIS/WHMIS**

HEALTH INDEX – 1  
 FLAMMABILITY – 0  
 REACTIVITY – 0  
 PERSONAL PROTECTION – A

**NFPA CODE**

FIRE  
 HEALTH  
 REACTIVITY  
 SPECIAL HAZARD



Material Safety Data Sheets available upon request.



**LENOX® LUBE®**

## Synthetic Lubricant for Spray Applications

**LENOX® LUBE® IS SPECIALLY FORMULATED FOR USE WITH THE MICRONIZER® OR MICRONIZER®, JR.**

A small amount of this clean, synthetic, water based lubricant aids in tooth penetration and reduces frictional heat. The result is longer blade life, while maintaining a clean working environment and reducing coolant disposal costs.

**USE WHEN SAWING FERROUS METALS:**

Carbon and alloy steels, tool steels, and stainless steels.

**COMPATIBLE WITH BAND-ADE® SAWING FLUID****CAN BE WELDED AND PAINTED OVER**

Product Number	Item
68014	1 gallon / 3.8 litre containers (packed 4 containers per case). No split cases
68018	5 gallon / 18.9 litre container
68017	55 gallon / 208.2 litre drum

**HMIS/WHMIS**

HEALTH INDEX – 0

FLAMMABILITY – 0

REACTIVITY – 0

PERSONAL PROTECTION – A

**NFPA CODE**

FIRE

HEALTH

REACTIVITY

SPECIAL HAZARD

For industrial use only. Not recommended for use as a spray lubricant.

Use this product as it comes from the container - do not mix with water.

**C/AI LUBE**

## For Non-Ferrous Spray Applications

**C/AI LUBE IS SPECIALLY FORMULATED FOR USE WITH THE MICRONIZER® OR MICRONIZER®, JR.**

This clean, synthetic oil lubricant, formulated for sawing non-ferrous metals, improves cutting performance and helps to prevent material chips from welding to teeth. The result is improved surface finish and extended saw blade life.

**FOR SAWING NON-FERROUS METALS, ESPECIALLY ALUMINIUM AND COPPER ALLOYS****INSOLUBLE IN WATER**

Product Number	Item
68024	1 gallon / 3.8 litre containers (packed 4 containers per case). No split cases
68026	5 gallon / 18.9 litre container
68025	55 gallon / 208.2 litre drum

**HMIS/WHMIS**

HEALTH INDEX – 0

FLAMMABILITY – 1

REACTIVITY – 0

PERSONAL PROTECTION – A

**NFPA CODE**

FIRE

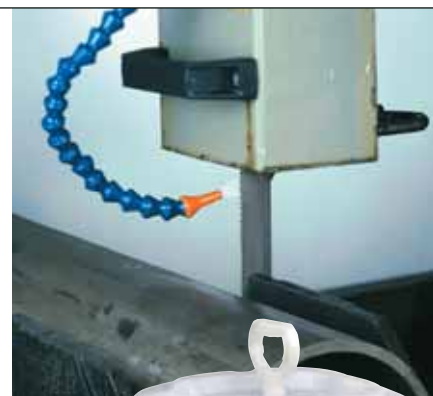
HEALTH

REACTIVITY

SPECIAL HAZARD

For industrial use only. Not recommended for use as a spray lubricant.

Use this product as it comes from the container - do not mix with water.



## LUBE TUBE

Manually Applied Lubricant Stick

**EXTREME PRESSURE LUBRICANT TO PREVENT THE BUILD-UP OF FRICTIONAL HEAT ON METAL SURFACES**

**DESIGNED TO BE APPLIED TO BANDSAW BLADES AND OTHER CUTTING TOOLS**

Improves overall tool life and productivity.

**IMPROVES TOOL LIFE**

When sawing, drilling, milling, grinding, threading or tapping.

**CAN BE USED ON FERROUS AND NON-FERROUS METALS, ALUMINUM GATES AND RISERS, PLATES AND EXTRUSIONS**

**BIODEGRADABLE, NON-TOXIC AND NON-STAINING**

Product Number	Item
68064	14.5 ounce / 411.1 gram container (packed 12 tubes per case). No split cases

**HMIS/WHMIS**

HEALTH INDEX – 0

FLAMMABILITY – 0

REACTIVITY – 0

PERSONAL PROTECTION – A

**NFPA CODE**

HEALTH FIRE

REACTIVITY

SPECIAL HAZARD

Material Safety Data Sheets available upon request.



## MICRONIZER® AND MICRONIZER®, JR.

Spray Applicators

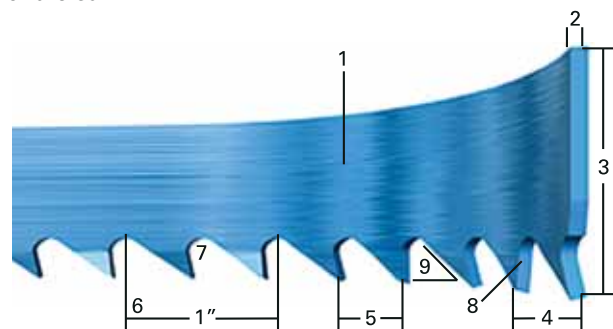
Precise fluid pump and air pressure controls ensure the correct amount of lubricant is applied to the blade. A variety of nozzles are available. The MICRONIZER® is recommended for production sawing operations and for larger bandsaw machines using 1-1/4" (34mm) and wider blades. The MICRONIZER®, JR. is recommended for 1" (25mm) blades and under, using non-automatic saws, for metalworking applications. For more information, contact your LENOX® Representative.



## BLADE TERMINOLOGY

1. **BLADE BACK** - The body of the blade not including tooth portion.
2. **THICKNESS** - The dimension from side to side on the blade.
3. **WIDTH** - The nominal dimension of a saw blade as measured from the tip of the tooth to the back of the band.
4. **SET** - The bending of teeth to right or left to allow clearance of the back of the blade through the cut.  
**KERF** - Amount of material removed by the cut of the blade.
5. **TOOTH PITCH** - The distance from the tip of one tooth to the tip of the next tooth.
6. **TPI** - The number of teeth per inch as measured from gullet to gullet.
7. **GULLET** - The curved area at the base of the tooth. The tooth tip to the bottom of the gullet is the gullet depth.

8. **TOOTH FACE** - The surface of the tooth on which the chip is formed.
9. **TOOTH RAKE ANGLE** - The angle of the tooth face measured with respect to a line perpendicular to the cutting direction of the saw.



## TOOTH FORMS & TOOTH SET



### VARIABLE

- Standard tooth forms
- Variable tooth spacing
- Varying gullet depth



### VARIABLE POSITIVE

- Smooth cutting
- Reduces noise
- Cuts efficiently
- Enhances blade life



### SKIP

- Wide gullets
- Evenly spaced teeth
- Good cutting performance on non-metallic applications (wood, plastic, cork and composition material)



### STANDARD

- Deep gullets
- Evenly spaced teeth
- General purpose design for wide range of applications



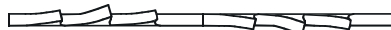
### HOOK

- Wide gullets
- Evenly spaced teeth
- Positive rake angle
- Good cutting performance on metals which form discontinuous chips (cast iron) and non-metallic applications (wood, plastic, cork and composition material)



### VARI-RAKER

- Multi-tooth sequence depending on tooth pitch
- Varying set angles
- 14/18 **VARI-TOOTH®** has random wavy set



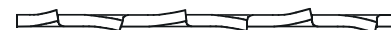
### WAVY

- Groups of teeth set to each side
- Teeth have varying amounts of sets in a controlled pattern



### RAKER

- Three tooth sequence - left, right, straight
- Uniform set angle



### ALTERNATE

- Every tooth set in an alternating sequence
- Wood cutting applications

### BLADE BREAK-IN

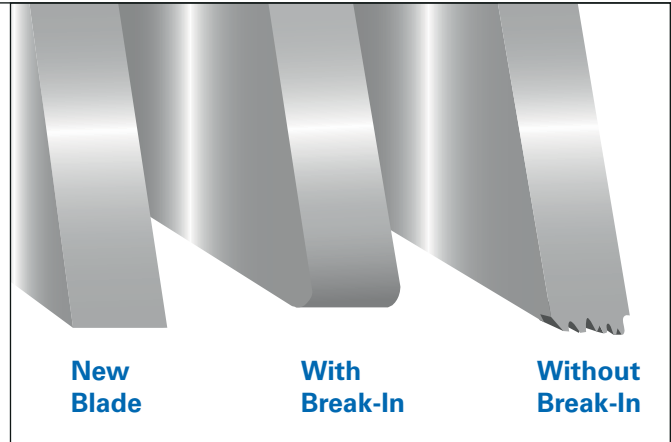
#### GETTING LONG LIFE FROM A NEW BANDSAW BLADE

##### WHAT IS BLADE BREAK-IN?

A new bandsaw blade has razor sharp tooth tips as a result of the forming of the teeth. In order to withstand the cutting pressures used in bandsawing, the tooth tip should be honed to form a micro-fine radius. Cutting with high pressure without performing this honing will cause microscopic damage to the tips of the teeth, resulting in loss of blade life.

##### WHY BREAK-IN A BANDSAW BLADE?

Completing a proper break-in on a new bandsaw blade will dramatically increase its blade life.



### HOW TO BREAK IN A BLADE

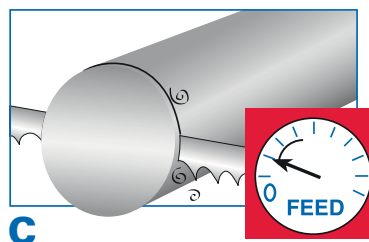
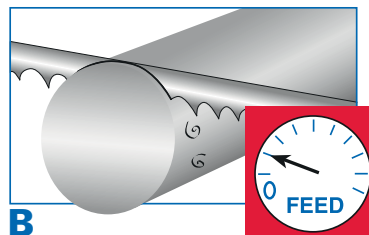
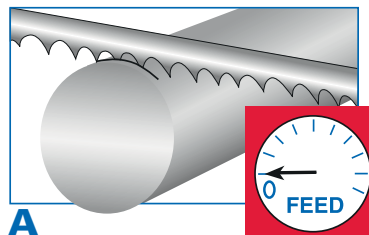
**1. USE THE APPROPRIATE BAND SPEED FOR THE MATERIAL TO BE CUT (SEE BI-METAL BAND SPEED CHART ON PAGES 20 AND 21).**

**2.** Reduce the feed rate/force control on the saw to achieve a cutting rate approximately 20% to 50% of the normal cutting rate. Mild steels require a larger reduction in cutting rate than more difficult to machine materials.

**3.** Begin the first cut at the reduced rate **(A)**, making sure that the teeth are forming a chip. Once the blade fully enters the workpiece, the feed rate can be slightly increased **(B)**.

**4.** Make gradual increases in feed rate/force over several cuts until the normal cutting rate is established (cutting a total of 60 to 118 inches<sup>2</sup> / 150 to 300 cm<sup>2</sup>) **(C)**.

**NOTE:** During break-in, slight adjustments to band speed may be made in the event of excessive noise or vibration. Once the blade is broken in, the recommended band speed should be used.



## POSSIBLE CAUSES OF BLADE FAILURE

Observation	Band Speed	Band Wheels	Break-In Proced.	Chip Brush	Sawing Fluid	Feeding Rate	Side Guides	Backup Guides	Preload Condition	Band Tension	Band Tracking	Tooth Pitch
#1 Heavy even wear on tips and corners of teeth	●		●		●	●						
#2 Wear on both sides of teeth							●	●				
#3 Wear on one side of teeth		●					●					
#4 Chipped or broken teeth			●			●						●
#5 Discolored tips of teeth due to excessive frictional heat	●				●	●						
#6 Tooth strippage	●		●	●	●	●						●
#7 Chips welded to tooth tips	●			●	●	●						
#8 Gullets loading up with material				●	●	●						
#9 Heavy wear on both sides of band					●		●					
#10 Uneven wear or scoring on sides of the band							●					
#11 Body breakage or cracks from gullets							●		●	●		
#12 Body breakage - fracture traveling in angular direction							●		●			
#13 Body breakage or cracks from back edge						●		●	●	●	●	
#14 Heavy wear and/or swaging on back edge						●		●	●		●	
#15 Butt weld breakage						●	●	●	●		●	
#16 Used band is 'long' on the tooth edge		●				●	●		●	●	●	
#17 Used band is "short" on the tooth edge		●				●	●		●		●	
#18 Band is twisted into figure '8' configuration		●				●	●	●	●	●	●	
#19 Broken band shows a twist in band length		●				●	●	●	●	●	●	
#20 Heavy wear in only the smallest gullets	●					●						●





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