



BI-METAL

BANDSAW

BLADES



BI-METAL PRODUCT SELECTION

PRODUCTION SAWING

ALUMINUM NON-FERROUS	CARBON STEELS	STRUCTURAL STEELS	ALLOY STEELS	BEARING STEELS	MOLD STEELS	TOOL STEELS	STAINLESS STEELS	TITANIUM ALLOYS	NICKEL-BASED ALLOYS (INCONEL®)	
EASY ←			MACHINABILITY				→ DIFFICULT			
<i>Qxp™</i>		<i>Qxp™</i> Long Life. Fast Cutting								
		<i>CONTESTOR GT® & CONTESTOR XL™</i> Long Life. Straight Cuts								
		<i>ARMOR® Rx+™</i> Long Life. Structurals/Bundles								
		<i>LENOX Rx+®</i> Structurals/Bundles								
<i>CLASSIC PRO™</i> Long Life. Extremely Versatile				<i>CLASSIC PRO™</i>						

GENERAL PURPOSE

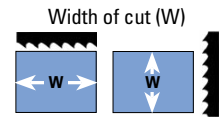
<i>LENOX CLASSIC®</i> 3/4" and Wider Blades	<i>LENOX CLASSIC®</i>
<i>DIEMASTER 2™</i> 1/2" and Narrower Blades	<i>DIEMASTER 2™</i>

Note: We can provide solutions for many cutting applications not listed here. Please call LENOX Technical Support at 800-642-0010, or go to sawcalc.com.

BI-METAL TOOTH SELECTION

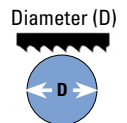
1. Determine the size and shape of the material to be cut
2. Identify the chart to be used (square solids, round solids, or tubing/structurals)
3. Read teeth per inch (TPI) next to material size

SQUARE/RECTANGLE SOLID Locate width of cut (W)



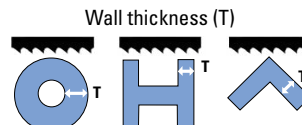
	WIDTH OF CUT																				
IN	.1	.2	.3	.4	.5	.6	.7	.8	.9	1	2	5	10	15	20	25	30	35	40	45	50
MM	2.5	5	7.5	10	12.5	15	17.5	20	22.5	25	50	125	250	375	500	625	750	875	1000	1125	1250
TPI	14/18	10/14	8/12	6/10	6/8	5/8	4/6	3/4	2/3	1.5/2.0	1.4/2.0	1.0/1.3	0.7/1.0								

ROUND SOLID Locate diameter of cut (D)



	DIAMETER OF CUT																				
IN	.1	.2	.3	.4	.5	.6	.7	.8	.9	1	2	5	10	15	20	25	30	35	40	45	50
MM	2.5	5	7.5	10	12.5	15	17.5	20	22.5	25	50	125	250	375	500	625	750	875	1000	1125	1250
TPI	14/18	10/14	8/12	6/10	6/8	5/8	4/6	3/4	2/3	1.5/2.0	1.4/2.0	1.0/1.3	0.7/1.0								

TUBING/PIPE/STRUCTURALS Locate wall thickness (T)



	WALL THICKNESS														
IN	.05	.10	.15	.20	.25	.30	.40	.50	.60	.70	.80	.90	1	1.5	2
MM	1.25	2.5	3.75	5	6.25	7.5	10	12.5	15	17.5	20	22.5	25	37.5	50
TPI	14/18	10/14	8/12	6/10	6/8	5/8	4/6	3/4	2/3						

BUNDLED/STACKED MATERIALS:



To select the proper number of teeth per inch (TPI) for bundled or stacked materials, find the recommended TPI for a single piece and choose one pitch coarser to cut the bundle

DIEMASTER 2™ & LENOX CLASSIC®

Multi-Purpose Entry Level Blades

LONG BLADE LIFE

M-42 high speed steel edge for excellent heat and wear resistance

FOR GENERAL PURPOSE APPLICATIONS

Utilize Diemaster 2 for hand-fed applications
Utilize Classic for automated saws



TOOTH FORM

WIDTH X THICKNESS		VARI-TOOTH™ TPI						STRAIGHT PITCH TPI											
IN	MM	4	6	8	6	8	10	12	10	14	14	18	3	4	6	10	14	18	24
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																		
3/4 x .035	19 x 0.90																		
1 x .035	27 x 0.90																		
1-1/4 x .042	34 x 1.07																		

LENOX CLASSIC PRO™

The Ultimate Multi-Purpose Blade for Production Cutting

EXCEPTIONAL BLADE 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



CONSISTENT PERFORMANCE CUT AFTER CUT

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

WIDTH X THICKNESS		TPI				
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

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					
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					♦	
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	♦					

GENERAL PURPOSE DECISION TREE

	CLASSIC PRO™	QXP™
Higher Production Rates	G	B
Structural Sections	B	G
Aluminum	G	B
Large Tubes / Pipes	G	B

G = GOOD
B = BETTER

LENOX RX+®

Engineered to Cut structurals, Tubing and Bundles

LONG BLADE LIFE AND EXTREME DURABILITY

Patented tooth profile resists tooth strippage, even at higher feed rates

QUIET CUTTING, REDUCED VIBRATION

Optimized tooth pitch/set sequence



WIDTH X THICKNESS		TPI						
IN	MM	2/3	3/4	4/6	5/7	5/8	6/10	10/14
5/8 x .032	16 x 0.80							*
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	◆†	◆†	◆				

*= Matrix edge

†= Extra heavy set available to prevent blade pinching

LENOX HRx®

Optimized to Cut Large Beams and Heavy Walled Tubes

LONG BLADE LIFE

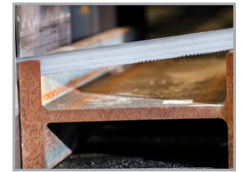
When cutting large structural beams

STRAIGHT CUTS

Through wide cross sections

WIDE KERF LIMITS

Pinching in larger beams



WIDTH X THICKNESS		TPI				
IN	MM	1.4/2.0	2/3	3/4	4/6	5/7
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	●	●†	●†		

† = Extra heavy set available to prevent blade pinching

ARMOR® RX+™

Engineered for Long Life

AiTiN COATING FOR PRODUCTIVITY AND LONG BLADE LIFE

Aluminum, 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



UNIQUE, PATENTED TOOTH PROFILE

Special, reinforced tooth design for reduced tooth strippage at higher feed rates

Minimized harmonics and vibrations

Quiet cutting

HIGH PERFORMANCE BACKING STEEL

For longer fatigue life

WIDTH X THICKNESS		TPI		
IN	MM	2/3	3/4	4/6
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	◆	◆†	

† = Extra heavy set available to prevent blade pinching

STRUCTURAL CUTTING DECISION TREE

	RX+®	HRx®	ARMOR® RX+™
Fast Cutting	G	B	E
Dry Cutting	G	G	E
Pinching Concerns	G	E	G
Large Capacity Saws	G	B	B
Beam, Channel, Angle Iron Height	<30"	>30"	All
Wall Thickness	<3/4"	>3/4"	All
SS Pipe / Tube	G	B	E
Small Structurals / Bundles	E	G	G

G = GOOD
B = BETTER
E = EXCELLENT

CONTESTOR GT[®] High Performance Sawing

STRAIGHTER CUTS ON LARGER, DIFFICULT TO CUT MATERIALS
Unique gullet design for increased beam strength

OPTIMUM CHIP FORMATION IN WORK HARDENING ALLOYS

Precision ground teeth—smoother tooth face and gullet surfaces
Patented special set and tooth profile



WIDTH X THICKNESS		TPI					
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				●	●	●
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

WAVE TECH[®] Blade Enhancement for Cutting Work Hardening Metals

ENHANCED CUTTING ABILITY

Engineered back edge enhancement creates a unique cutting action that increases tooth penetration without additional machine feed pressure

INCREASED BLADE LIFE*

Proprietary design balances the depth of penetration with cutting force to optimize chip load and reduce frictional wear
Precision chamfer on the back edge of the blade reduces stress risers and minimizes band breaks

FASTER CUTTING RATES*

Design-induced rocking motion improves cutting efficiency and speed by breaking through the work hardening layer

*Vs. Standard LENOX band saw blades



CONTESTOR XL[™] High Performance Sawing of Large, Difficult to Cut Metals

INCREASED WEAR RESISTANCE DELIVERS LONGER BLADE LIFE

New HSS edge wire increases tooth hardness for better abrasive wear resistance

Patent pending chip controlling design reduces heat and wear



IMPROVED CHIP FORMATION HELPS PENETRATE DIFFICULT TO CUT METALS

Variable tooth heights and multi-level set creates deeper, narrower chips

High rake angles reduce cutting forces

OPTIMIZED DESIGN FOR STRAIGHTER CUTS ON LARGE BLOCKS

Shallow gullet construction increases beam strength

WIDTH X THICKNESS		TPI					
IN	MM	0.7/1.0	1.0/1.3	1.4/2.0	2/3	3/4	4/6
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	◆	◆				

DIFFICULT TO CUT ALLOYS DECISION TREE

	CONTESTOR GT [®]	CONTESTOR XL [™]
Higher Production Saws	G	B
Higher Production Rates	G	B
Wider Cross Sections	G	B
Small Cross Sections (600mm and Less)	B	G
Older Saws / Less Maintained	B	G
Mild Materials - Carbon Steels to Simple Stainless Steels	B	G
Harder Materials (Hot Work Tool Steels, Aerospace Materials)	G	B
Surface Finish Requirement	G	B

G = GOOD
B = BETTER

BAND-ADE® Semi-Synthetic Sawing Fluid

- Extends Blade Life
- Exceptional Cooling
- Increases Productivity



CONTAINER SIZE

PROD NO	GALLON	LITER	CONTAINERS PER CASE
68004	1	3.8	4
68005	2-1/2	9.5	2
68003	5	18.9	-
68001	55	208.2 drum	-
68007	275	1,040.9 tote	-

LENOX 100CF™ Chlorine Free Water Soluble Oil for Heavy Duty Machine Applications

- Extremely Versatile
- High Lubricity
- Excellent Sump Life
- Chlorine Free



CONTAINER SIZE

PROD NO	GALLON	LITER	CONTAINERS PER CASE
1920851	1	3.8	4
1920852	5	18.9	-
1920853	55	208.2 drum	-
1920854	275	1,040 tote	-

LENOX LUBE® Synthetic Lubricant for Spray Applications

- Extends Tool Life
- Reduces Cost
- Optimum Performance on Ferrous Metals



CONTAINER SIZE

PROD NO	GALLON	LITER	CONTAINERS PER CASE
68014	1	3.8	4
68018	5	18.9	-
68017	55	208.2 drum	-
68016	275	1,040 tote	-

SAW MASTER™ Synthetic Sawing Fluid

- Longer Blade Life. Faster Cutting.
- Rejects Most Tramp Oils
- Excellent Sump Life



CONTAINER SIZE

PROD NO	GALLON	LITER	CONTAINERS PER CASE
68064	1	3.8	4
68061	5	18.9	-
68062	55	208.2 drum	-
68063	275	1,040.9 tote	-

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

MACHINE CLEANER Prepares Your Sump for the use of LENOX Sawing Fluids

- Cleans the Machine Between Changes
- Extends the Life of the Sawing Fluid
- Prevents Contamination When Converting Fluids

BAND-ADE® and SAW MASTER™ lubricants not recommended for use as spray lubricants. Mix with water as recommended.



CONTAINER SIZE

PROD NO	GALLON	LITER	CONTAINERS PER CASE
68006	1	3.8	4

For industrial use only. Mix this product with water as recommended.

C/AI™ LUBRICANT High Lubricity Formulation for Spray Applications

- Works Effectively on All Types of Materials
- Increased Productivity
- Extends Tool Life
- Control Costs



CONTAINER SIZE

PROD NO	GALLON	LITER	CONTAINERS PER CASE
68024	1	3.8	4
68026	5	18.9	-
68025	55	208.2 drum	-
68028	275	1,040 tote	-

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

BI-METAL SPEED CHART

VISIT SAWCALC.COM
FOR CUSTOMIZED BAND SAW RECOMMENDATIONS

	MATERIALS		BAND SPEED	
	TYPE	GRADE	FEET/ MIN	METER/ MIN
ALUMINUM / NON-FERROUS	Aluminum Alloys	2024, 5052, 6061, 7075	300+	85+
	Copper Alloys	CDA 220	210	65
		CDA 360	295	90
		Cu Ni (30%)	200	60
		Be Cu	160	50
	Bronze Alloys	AMPCO 18	180	55
		AMPCO 21	160	50
		AMPCO 25	110	35
		Leaded Tin Bronze	290	90
		Al Bronze 865	150	45
Mn Bronze		215	65	
Brass Alloys	932	280	85	
	937	250	75	
CARBON STEELS	Leaded, Free Machining Low Carbon Steels	1145	270	80
		1215	325	100
		12L14	350	105
	Low Carbon Steels	1008, 1018	270	80
		1030	250	75
	Medium Carbon Steels	1035	240	75
		1045	230	70
	High Carbon Steels	1060	200	60
		1080	195	60
		1095	185	55
STRUCTURAL STEEL	Structural Steel	A36	250	75
ALLOY STEEL	Mn Steels	1541	200	60
		1524	170	50
	Cr-Mo Steels	4140	225	70
		41L50	235	70
		4150H	200	60
	Cr Alloy Steels	6150	190	60
		5160	195	60
	Ni-Cr-Mo Steels	4340	195	60
8620		215	65	
8640		185	55	
E9310		160	50	
BEARING STEEL	Cr Alloy Steels	52100	160	50
MOLD STEEL	Mold Steels	P-3 P-20	180 165	55 50
STAINLESS STEEL	Stainless Steels	304	115	35
		316	90	25
		410, 420	135	40
		440A	80	25
		440C	70	20
	Precipitation Hardening Stainless Steels	17-4 PH 15-5 PH	70 70	20 20
Free Machining Stainless Steels	420F 301	150 125	45 40	
TOOL STEEL	Low Alloy Tool Steel	L-6	145	45
	Water-Hardening Tool Steel	W-1	145	45
	Cold-Work Tool Steel	D-2	90	25
	Air-Hardening Tool Steels	A-2	150	45
		A-6	135	40
		A-10	100	30
	Hot Work Tool Steels	H-13	140	40
		H-25	90	25
	Oil-Hardening Tool Steels	O-1	140	40
		O-2	135	40
	High Speed Tool Steels	M-2, M-10	105	30
		M-4, M-42	95	30
T-1		90	25	
T-15		60	20	
Shock Resistant Tool Steels	S-1	140	40	
	S-5, S-7	125	40	
TITANIUM ALLOY	Titanium Alloys	CP Titanium Ti-6Al-4V	85 65	25 20
NICKEL BASED ALLOY	Nickel Alloys	Monel® K-500	70	20
		Duranickel 301	55	15
	Iron-Based Super Alloys	A286, Incoloy® 825	80	25
		Incoloy® 600	55	15
		Pyromet X-15	70	20
	Nickel-Based Alloys	Inconel® 600, Inconel® 718, Nimonic 90, NI-SPAN-C 902, RENE 41	60	20
Inconel® 625		60	20	
Hastalloy B, Waspalloy		80	25	
Nimonic 75, RENE 88		55	15	
		50	15	
OTHER	Cast Irons	A536 (60-40-18)	225	70
		A536 (120-90-02)	110	35
		A48 (Class 20)	160	50
		A48 (Class 40)	115	35
		A48 (Class 60)	95	30

The Speed Chart recommendations apply when cutting 4" wide (100mm), annealed 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 - 0%
8" (200mm)	Chart Speed - 12%

ADJUST BAND SPEED FOR DIFFERENT FLUID TYPES

FLUID TYPES	BAND SPEED
Spray lube	Chart Speed - 15%
No fluid	Chart Speed - 30-50%

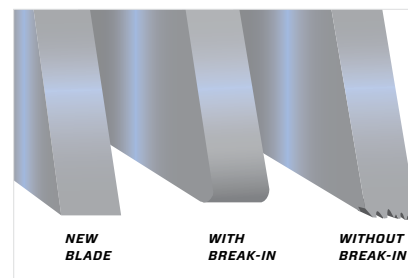
ADJUST BAND SPEED FOR HEAT TREATED MATERIALS

ROCKWELL	BRINELL	DECREASE BAND SPEED
Up to 20	226	-0%
22	237	-5%
24	247	-10%
26	258	-15%
28	271	-20%
30	286	-25%
32	301	-30%
36	336	-35%
38	353	-40%
40	371	-45%

Reduce band speed 50% when sawing with carbon blades

BLADE BREAK-IN

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





LENOX SITE SURVEY

Identify Facility Goals, Metrics, Challenge and Bottlenecks



COMPREHENSIVE OPERATOR TRAINING

Lenox Team Designed and Led Course



MACHINE DIAGNOSTICS: LENOX 13 POINT INSPECTION

Critical Sawing Parameters Emphasis



PRODUCTIVITY & COST SAVINGS

Detailed Recommendations to Improve Productivity



MACHINE UTILIZATION OPTIMIZATION

Minimize Unplanned Downtime



SOLUTIONS & RESOURCES

Offer Sustainability to Realize Cost Savings and Improved Performance

SAWCALC® SOFTWARE

Cut Smarter. Web-Enabled Solution for Your Cutting Challenges

CUSTOMIZED, ACCURATE RECOMMENDATIONS

Identify the right LENOX blade for the job
Determine the correct parameters to satisfy your cutting goals

HIGHLY TECHNICAL, ENGINEERED SOLUTIONS

Built-in intelligence based on years of engineering experience
Over 35,000 metals and 9,000 band saws inside the program

FREE, EASY TO USE AND ALWAYS UPDATED

SAWCALC® Software is updated regularly to include the latest machines, metals, and LENOX products

VISIT SAWCALC.COM
FOR CUSTOMIZED BAND SAW RECOMMENDATIONS

Customer Service: 800-628-8810
Technical Support: 800-642-0010
lenoxtools.com

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WE OFFER MORE THAN JUST A BLADE



GUARANTEED TRIAL ORDER

The recommended blade will outperform your present blade or your money back – that's the LENOX Guaranteed Trial Order (GTO).

MACHINE TUNE-UP FOR THE BEST SAWING PERFORMANCE

A Factory Trained LENOX Technical Representative will perform a 13-point tune-up to optimize blade and machine performance.

TECHNICAL SUPPORT BY PHONE

Answers to sawing questions are just a toll-free call away. LENOX Technical Service 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 800-642-0010, E-mail: info@lenoxtools.com

ONLINE LEARNING PLATFORM TO OPTIMIZE BAND SAW OPERATION



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