



BÖHLER-UDDEHOLM Precision Strip AB is the world's leading manufacturer of high quality strip steel. More than a century's experience of cold rolling has given us a unique competence in precision strip steel production. We specialise in complicated combinations of properties and close tolerances.

Quality, reliability and service are the keynotes of our operations. Our extensive experience and know-how makes it possible for us to supply a comprehensive array of technical and customer services. BÖHLER-UDDEHOLM Precision Strip AB is continually developing new Sawsteel products in close co-operation with Forest industries, Sawmills and Sawmakers around the world. Our own Saw Doctors travel extensively to assist in the continual improvement of the sawn product, thus improving our knowledge of the customers demands. In addition to our Wood Bandsaw steels, our product range includes Coater and Printing blades for the Paper and Printing industries, knives and scalpel steels, valve steels for the automotive and refrigeration industries. Many other special strip steel products are also made for specialised industries, in accordance with the customers wishes.

BÖHLER-UDDEHOLM Precision Strip AB is represented worldwide. Since 1992 the company is a wholly owned subsidiary of Böhler-Uddeholm AG. Apart from our direct sales we are represented by Böhler-Uddeholm subsidiaries globally. We export more than 90% of our yearly production and work closely with our subsidiaries to ensure that we fulfil our customers desires.

BÖHLER UDDEHOLM

precision *strip*

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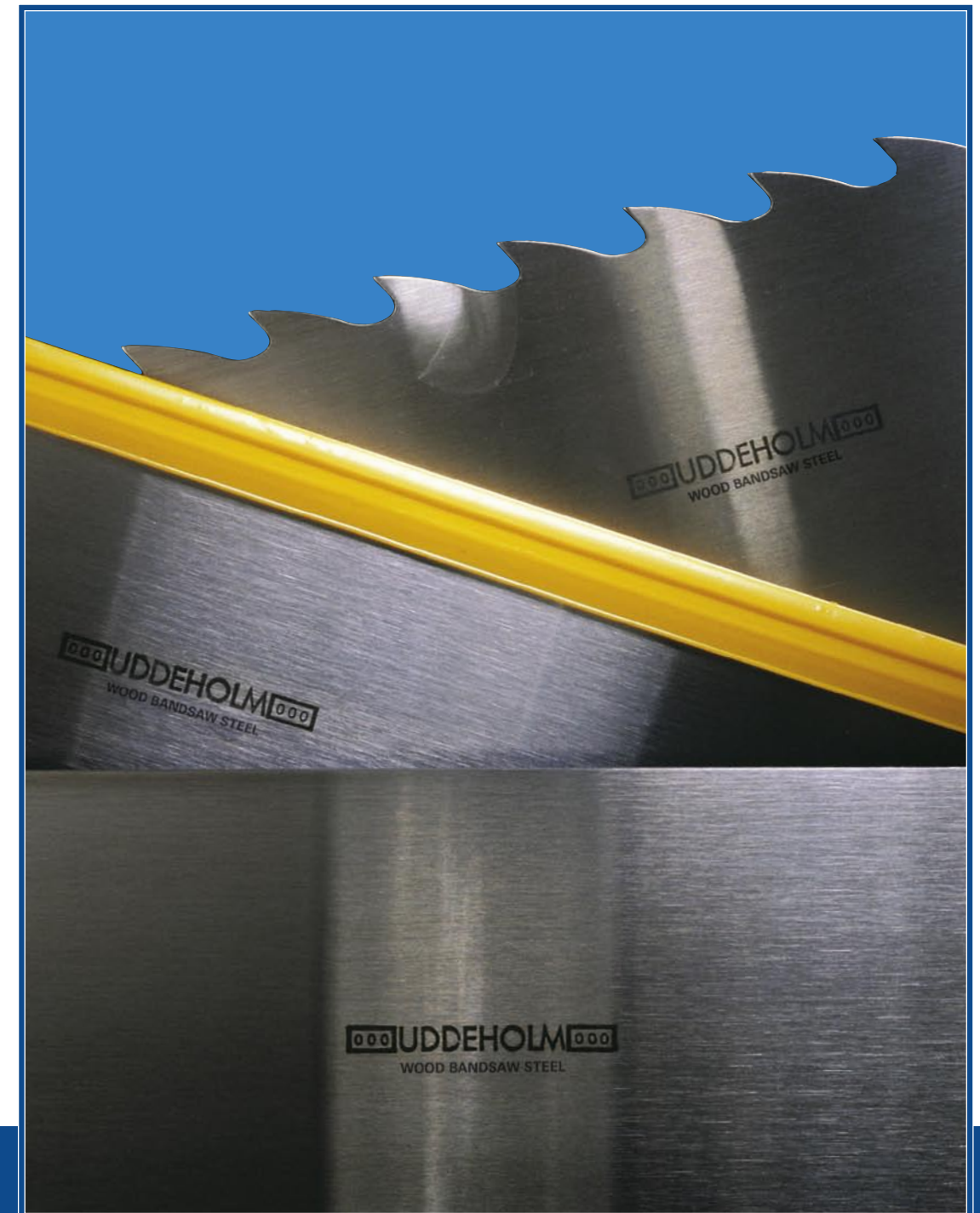


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Wood Bandsaw Steel

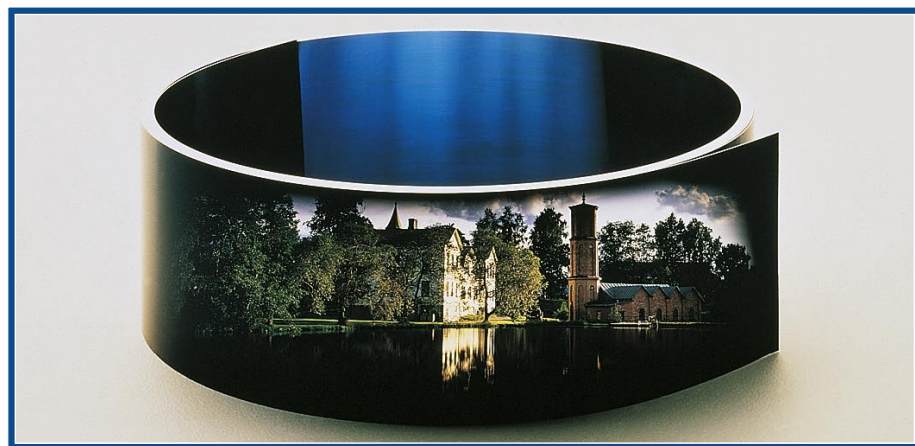


UDDEHOLM
WOOD BANDSAW STEEL

Saw Steel

UDDEHOLM
STRIP





Specification

Wood bandsaw blades have a tough life ...

They are subjected to severe stresses. Teeth hitting the wood at extremely high speeds give rise to shock stress. Every day a blade runs over bandsaw wheels several hundred thousand times exposing it to high fatigue stress. Heat, particularly at the edges of the teeth, creates thermal stresses, which must be absorbed by the rest of the saw blade to avoid distortion.

Traditionally sawmills required blades with teeth that could withstand setting or swaging without cracking or breaking yet still maintain their sharpness. The increasing use of stellite tipping means that the blade material has to be suitable for stelliteizing.

A bandsaw blade must be able to keep its set and remain straight whilst being subjected to relatively high and varying temperatures. The demands made on wood bandsaw blade material are very exacting and somewhat contradictory.

... but our bandsaw steel easily meets these requirements.

Thanks to the high purity of the basic materials we use and the precise control of the heat treatment methods used in our production lines our bandsaw steel easily copes with the exacting demands placed on it. Our experience ensures that Uddeholm bandsaw steel has the right combination of hardness and flexibility for the job. These qualities make for:

- High wear resistance.
- High fatigue strength.
- Good elasticity and resilience.

Accurate flatness coupled with an extremely high degree of straightness makes the task of aligning the saw blade easier. This in turn yields:

- Low production costs.
- High and uniform blade quality.

Steel Grades	
	for thickness:
UHB 15 (C 0.71%)	≤ 1,10 mm (≤ .0433")
UHB 15 N20 (C 0.75%, Ni 2.0%)	> 1,10 mm (> .0433")

Coil Weights		
min.	0.8 kg / mm (44.7 lbs / inch)	strip width
max.	5.5 kg / mm (308.0 lbs / inch)	strip width

Properties	
Hardened and tempered	
Tensile Strength:	for thicknesses:
1450 N/mm ²	< 2 mm (< .079")
1370 N/mm ²	≥ 2 mm (≥ .079")
White, Smooth Surface	
Square Smooth Edges	
Width Tolerance B1	
Thickness Tolerance T1	
Flatness P4 (max. deviation 0.1% x width of strip)	
Special straightness (R9)	

Standard Case Weights		
Strip Widths		Weight
< 40 mm	(< 1.57")	200–300 kg (440–660 lbs) net
40–80 mm	(1.57"–3.1")	220–350 kg (485–770 lbs) net
≥ 80 mm	(≥ 3.1")	1 coil per case

Dimensions	
Width	6.3 – 412.8 mm (0.25" – 16.25")
Thickness	0.40 – 3.05 mm (.016"–.120", 27–11 BWG)

Forms of delivery

Supplied in coils or cut to lengths.



The Mark of Quality

UDDEHOLM
WOOD BANDSAW STEEL

"Marking" – Uddeholm Strip Wood Bandsaw steel is etched with our trade mark at regular intervals throughout the coils on sizes wider than 12.5 mm.



UDDEHOLM
WOOD BANDSAW STEEL

Precision is our edge

Wood Bandsaw Steel



BETTER TOOL CARE PAYS

UDDEHOLM STRIP

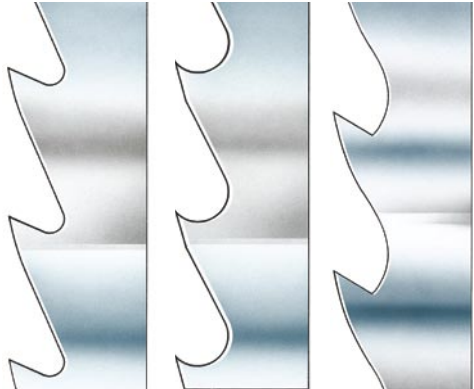
BÖHLER-UDDEHOLM PRECISION STRIP IS ONE OF THE WORLD'S LARGEST PRODUCER OF SAW STEEL

CHOOSE WOOD BANDSAW STEEL WITH THE FAMOUS TRADEMARK – YOUR GUARANTEE OF QUALITY.



Our Wood Bandsaw Steel is a Swedish quality product, designed to meet market requirements and is used in Bandsaw Blades all over the world.

EXAMPLES OF TOOTH SHAPES



MAINTENANCE OF BANDSAW BLADES

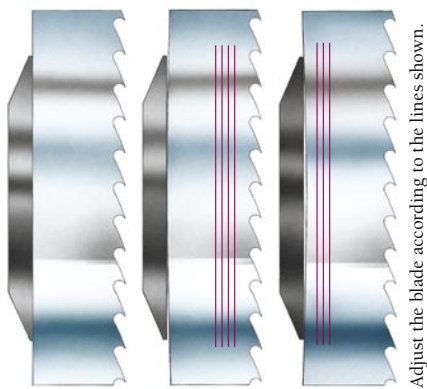
1. Clean and check for cracks.
2. Levelling
3. Tensioning
4. Sharpening
5. Swaging or tipping
6. Sharpening (check of tensioning)
7. Storage

CLEANING AND INSPECTION



Clean the saw with a suitable solvent. Check for possible damage, e.g. gullet cracks.

STRAIGHTENING AND LEVELLING



Adjust the blade according to the lines shown.

TENSIONING PROCEDURE



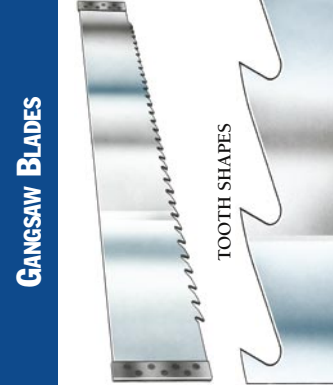
Sequence and positions of rolling passes during the tensioning of a bandsaw blade:

- 1 - 5 on the first side
 - 6 - 9 on the reverse side
- The number of passes through the stretch roller machine will depend on the required tension and the width of the bandsaw blade.
- During tensioning, do not roll closer than 20 mm from the edges of the blade. Check the amount of tension. This should be 0.2 - 0.3 mm. Then check the whole blade and the sides.
- The flatness deviation for a number of dimensions is given in the Uddeholm Strip Steel Wood Bandsaw blade manual.

CHECKING THE TENSION



Checking the tension with a straight or convex template.

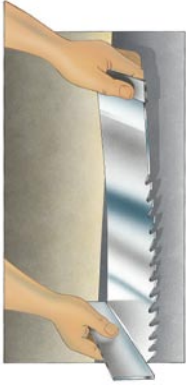


GANGSAW BLADES

TOOTH SHAPES

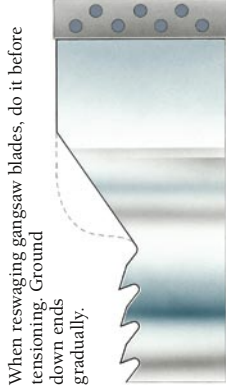


TENSIONING



Flatten out all bulges against a soft surface. Check that the blade is flat near the clamping tabs. If not, the blade will not fit properly against the holders.

RESWAGING



When reswaging gangsaw blades, do it before tensioning. Ground down ends gradually.

CAUSES OR FAULTS AND THEIR SOLUTION IN WOOD BANDSAWING

CAUSES/SOLUTIONS TO FAULTS

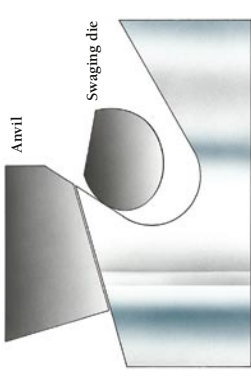
Fault related to:	▲ A wrong choice of method or parameter	● blade maintenance	■ bandsaw machine or its operation
Fault	Possible Cause	Solution	
Gullet cracks	▲ Unstable tooth shape – the gullet capacity is too low – the teeth are too high ▲ The blade is too small in relation to the diameter of the guides ● Deep grinding scratches ● Punching or grinding burrs	– The gullet capacity should be calculated in order not to fill more than 60-75% of it with sawdust and chips. – For swaged or seltite tipped teeth, the ratio of height to pitch height should be about 1/3 if the pitch. However, the maximum tooth height should be less than 8-10 times the blade thickness. – Change the gullet radius. – Increase the blade thickness with a thickness smaller or equal to 1/1000 of the diameter of the bandsaw wheels. – Use grinding wheels with finer grit (about 46-60-80) – Use sharp punching tools and a proper clearance (about 4% of the blade thickness), grind carefully and remove residual burrs with a rotary file. – Use a softer grinding wheel (L to 0) of the proper grit (46-60-80) and dress it often. Use a moderate feed, especially in the last pass. – Tension the blade with relative low roll pressure and with a higher pressure in the last pass. – Place the blade at least 20 mm (3/4") from the edge of the guides. – Measure the straightness deviation of the edge with a back gauge and correct with some rolling passes. Make sure that the tensioning is unchanged and tension the blade if necessary. – Check the spring setting, swaging or dressing by means of a side clearance measuring device and correct the deviation. – Grind the whole tooth line in order to expose fresh, not fatigued material. – Re-grind as often as to keep the teeth sharp and not to allow any cracks to grow. – The maximum strain force depends of the sawblade thickness and width, the diameter of the bandsaw wheels, etc. Do not exceed the recommended values. – Eliminate eccentricity and play in bearings, tighten up loose bolts, adjust the guides, install an extra guide if necessary. – Regrind the bandsaw wheels. – Place the blade at least 20 mm (3/4") from the edge of the bandsaw wheels.	– Regrind the bandsaw wheels after 2000-5000 effective working hours, temperatures are low. – Wide bandsaw blades should not exceed 50 m/s (9850 ft/min).
Cracks in the surface and back edge of the blade	■ Worn-down crown on the bandsaw wheels ● Too much friction between the blade and the guides ● Too much friction between the sawn material and the surface of the blade ■ Resin, sawdust, chips, etc. between bandsaw wheels and blade	– Change the bearings. – Always release the bandsaw blade from strain when not in operation, even during shorter periods and especially when the temperatures are low. – Wide bandsaw blades should not exceed 50 m/s (9850 ft/min).	– Regrind the bandsaw wheels after 2000-5000 effective working hours. – Keep the guides clean and reduce their pressure. Pressure guides should be replaced as soon as they are worn. – Increase the spring set, swage or seltite tip, e.g. for swaging, 0.3-0.6 mm (.020-.024")/side for soft woods and 0.30-0.35 mm (.012-.014")/side for hard woods. – Keep the working rims of the bandsaw wheels and the blade free from sawdust and resin by means of scrapers and/or felt-filled boxes with suitable solvents.
Though decreased tilting, the blade moves too much forward on the wheels	● Too long back edge blade ▲ Too large hook angle	– Straighten the blade. – Increase the hook angle. For swaged teeth it should be max 30° for soft woods and max 20° for hard woods.	
Though increased tilting, the blade moves too much backward on the wheels	▲ Too long tooth line ▲ Too small hook angle	– Straighten the blade. – Increase the hook angle. For swaged teeth it should be min 25° for soft woods and min 15° for hard woods.	
The blade runs back and forth on the wheels	● Badly straightened blade ● Uneven tensioning ■ Worn-down crown on the bandsaw wheels	– Restraighten the blade. – Retension the blade. – Regrind the bandsaw wheels.	
The blade runs stable on the guides but cuts out saws obliquely	■ Badly adjusted or neglected guides ▲ Insufficient gullet area ● Uneven spring setting or swaging ● Too long tooth line	– Adjust or change the guides. – The gullet capacity should be calculated in order not to fill more than 60-75% of it with sawdust and chips. – Correct the spring setting or side dress the swaging.	– Straighten the blade

FURTHER INFORMATION IS GIVEN IN THE UDDEHOLM STRIP WOOD BANDSAW BLADE MANUAL



SWAGING

1. Check that the anvil and the die are not worn.
2. The blade must be clean and the teeth free from grinding burr, deep scratches and grinding burns.
3. The anvil must lie flat against the back of the tooth.
4. Normal distance between anvil and die at highest position 0.05 - 0.10 mm
5. Use an anvil with the same angle as the clearance angle of the tooth.
6. See The Uddeholm Strip Steel Wood Bandsaw Blade manual for the recommended amount of swage.



SHARPENING

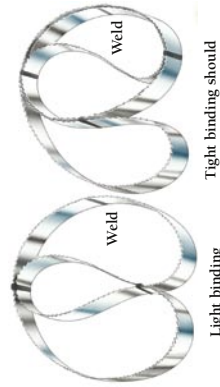


When making final sharpening you also side dress. Side dressing equalizes the tooth line. Side dressing is always carried out after the tooth line has been ground.

It is important that grinder settings should be accurate so that uneven tooth width, see photo, is avoided. Results should always be checked with a measuring device, as uneven side clearance causes skewed sawing.

STORAGE

Welded bandsaw blades are usually stored with bound loops. Make sure that the weld is situated on a relatively straight part of the blade.



Light binding
Tight binding should only be used for blades with length at least 6000 x thickness

Size-programme

Size		Weight	Standard	Other common
mm	inch x BWG	kg/100 m	size (S)	size (X)
6.30 x 0.50	0.248 x .0197	2.47		X
10.00 x 0.50	0.394 x .0197	3.93		X
10.00 x 0.60	0.394 x .0236	4.71		X
12.50 x 0.50	.0197	4.91		X
12.50 x 0.60	0.492 x .0236	5.89		X
12.50 x 0.70	.0276	6.87		X
16.00 x 0.40	.0157	5.02	S	
16.00 x 0.50	0.630 x .0197	6.28	S	
16.00 x 0.60	.0236	7.54	S	
16.00 x 0.70	.0276	8.79	S	
20.00 x 0.50	.0197	7.85		X
20.00 x 0.60	0.787 x .0236	9.42	S	
20.00 x 0.70	.0276	11.0	S	
25.00 x 0.60	.0236	11.8	S	
25.00 x 0.70	0.984 x .0276	13.7	S	
25.00 x 0.80	.0315	15.7	S	
30.00 x 0.60	.0236	14.1	S	
30.00 x 0.70	1.181 x .0276	16.5	S	
30.00 x 0.80	.0315	18.8	S	
35.00 x 0.70	.0276	19.2	S	
35.00 x 0.80	1.378 x .0315	22.0		
35.00 x 0.90	.0354	24.7		X
35.00 x 1.00	.0394	27.3		X
40.00 x 0.70	.0276	22.0		X
40.00 x 0.80	1.575 x .0315	25.1	S	
40.00 x 0.90	.0354	28.3		X
40.00 x 1.00	.0394	31.2		X
45.00 x 0.80	1.771 x .0315	28.3		X
45.00 x 0.90	.0354	31.8	S	
50.00 x 0.80	.0315	31.4		X
50.00 x 0.90	1.969 x .0354	35.3	S	
50.00 x 1.00	.0394	39.3	S	
60.00 x 0.90	2.362 x .0354	42.4		X
60.00 x 1.00	.0394	47.1	S	
63.00 x 0.90	2.480 x .0354	44.5		X
63.00 x 1.00	.0394	49.5		X
70.00 x 0.90	.0433	49.1		X
70.00 x 1.00	2.756 x .0394	55.0	S	
70.00 x 1.10	.0433	60.5		X
76.20 x 0.89	3.000 x 20 BWG	53.2		X
80.00 x 0.90	.0354	56.5	S	
80.00 x 1.00	3.150 x .0394	62.8	S	
80.00 x 1.10	.0433	69.1	S	
90.00 x 0.90	.0354	63.6		X
90.00 x 1.00	3.543 x .0394	70.7		X
90.00 x 1.10	.0433	77.7		X
100.00 x 1.00	.0394	78.5	S	
100.00 x 1.10	3.937 x .0433	86.4	S	
100.00 x 1.20	.0472	94.2	S	
104.80 x 0.89	20 BWG	73.2	S	
104.80 x 1.07	4 1/8 x 19 BWG	88.0	S	
104.80 x 1.25	18 BWG	103.0	S	
110.00 x 1.00	4.331 x .0394	86.4	S	
110.00 x 1.10	.0433	95.0	S	
115.00 x 1.20	4.528 x .0472	108.0		X
120.00 x 1.00	.0394	94.2		X
120.00 x 1.10	4.724 x .0433	104.0	S	
120.00 x 1.20	.0472	113.0	S	

Size-programme

Size		Weight	Standard	Other common
mm	inch x BWG	kg/100 m	size (S)	size (X)
130.00 x 1.00	5.118 x .0394	102		X
130.00 x 1.20	.0472	122	S	
130.20 x 0.89	20 BWG	91		X
130.20 x 1.07	5 1/8 x 19 BWG	109	S	
130.20 x 1.25	18 BWG	128	S	
140.00 x 1.10	.0433	121		X
140.00 x 1.20	5.512 x .0472	132	S	
150.00 x 1.10	.0433	130		X
150.00 x 1.20	5.906 x .0472	141	S	
150.00 x 1.30	.0512	153	S	
155.60 x 1.07	19 BWG	131	S	
155.60 x 1.25	6 1/8 x 18 BWG	153	S	
155.60 x 1.47	17 BWG	180	S	
160.00 x 1.20	6.299 x .0472	151		X
160.00 x 1.30	.0512	162		X
181.00 x 1.07	19 BWG	152		X
181.00 x 1.25	18 BWG	178	S	
181.00 x 1.38	7 1/8 x .0543	195		X
181.00 x 1.47	17 BWG	209	S	
181.00 x 1.65	16 BWG	234		X
206.40 x 1.25	18 BWG	203	S	
206.40 x 1.47	17 BWG	238	S	
206.40 x 1.65	16 BWG	267	S	
206.40 x 1.83	15 BWG	295		X
231.80 x 1.47	17 BWG	267	S	
231.80 x 1.65	16 BWG	300	S	
260.40 x 1.47	17 BWG	301	S	
260.40 x 1.65	16 BWG	337	S	
260.40 x 1.83	10 1/4 x 15 BWG	374	S	
260.40 x 1.96	.0772	398		X
260.40 x 2.11	14 BWG	431		X
285.80 x 1.65	16 BWG	370	S	
285.80 x 1.83	15 BWG	411		X
285.80 x 1.96	11 1/4 x .0772	437		X
285.80 x 2.11	14 BWG	473		X
285.80 x 2.26	.0890	507		X
311.20 x 1.65	16 BWG	403	S	
311.20 x 1.83	15 BWG	447	S	
311.20 x 1.96	12 1/4 x .0772	479		X
311.20 x 2.11	14 BWG	515		X
311.20 x 2.26	.0890	552		X
311.20 x 2.41	13 BWG	589		X
336.60 x 2.11	13 1/4 x 14 BWG	558		X
362.00 x 1.83	15 BWG	520		X
362.00 x 2.11	14 BWG	600		X
362.00 x 2.26	14 1/4 x .0890	642		X
362.00 x 2.41	13 BWG	685		X
362.00 x 2.57	101	730		X
362.00 x 2.77	12 BWG	787		X
387.40 x 2.41	13 BWG	733		X
387.40 x 2.57	15 1/4 x .101	782		X
387.40 x 2.77	12 BWG	842		X
412.80 x 2.41	13 BWG	781		X
412.80 x 2.77	16 1/4 x 12 BWG	898		X
412.80 x 3.05	11 BWG	988		X