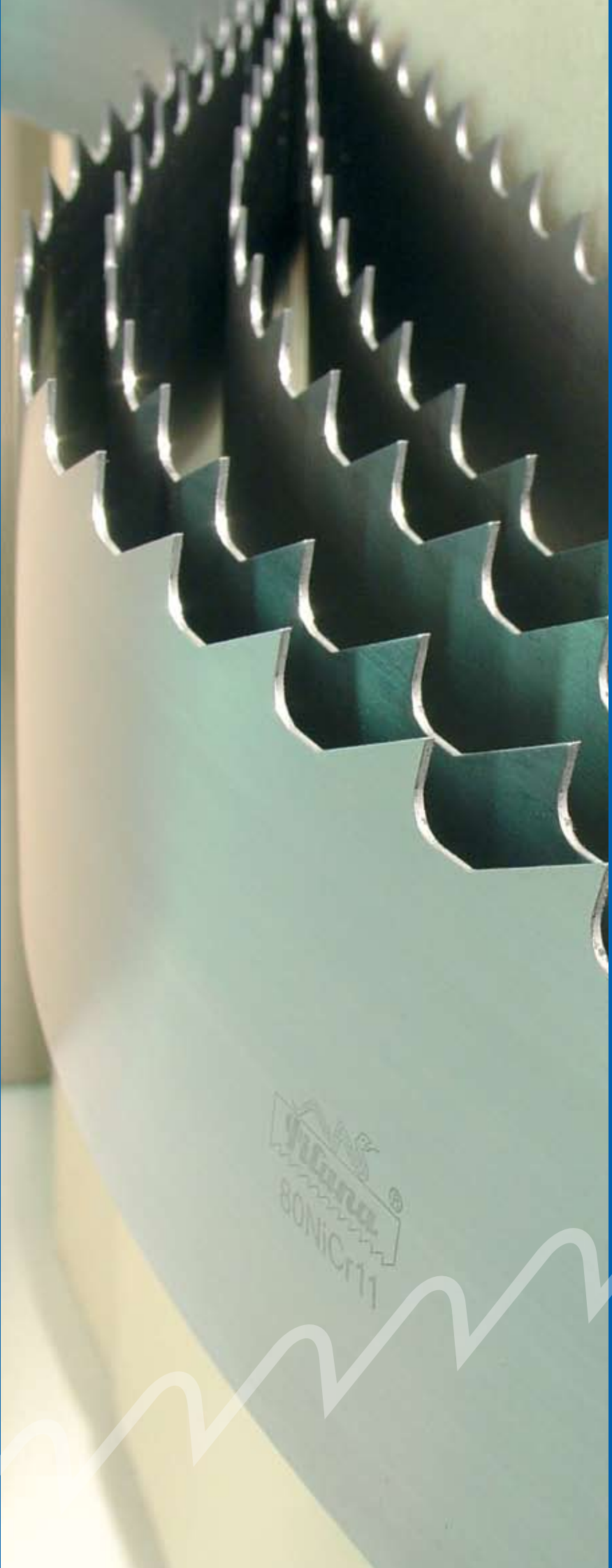
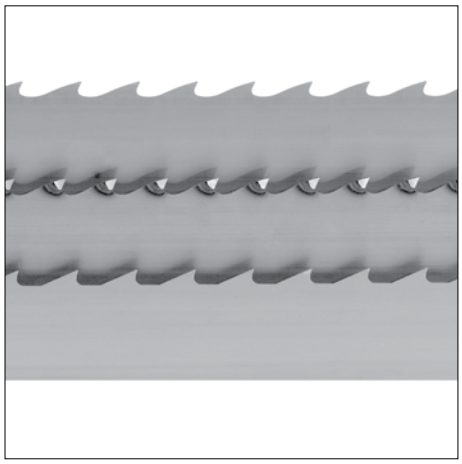


Bandsaw blades for wide bandsaws

Bandsaw blades for wide bandsaws

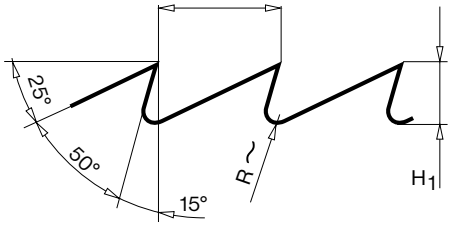
Wide bandsaw blades

Usage: longitudinal cutting of massive hard and soft natural wood
Machine: wide bandsaw machines

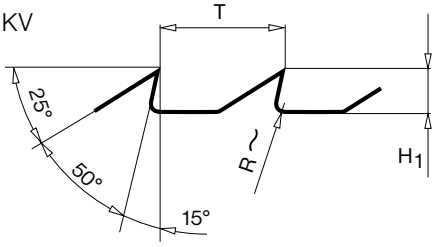


5343 (NV) – triangular type of teeth
5344 (KV) – wolfish type of teeth
5345 (PV) – rounded type of teeth
5345-PVI (PVI) – rounded teeth PVI

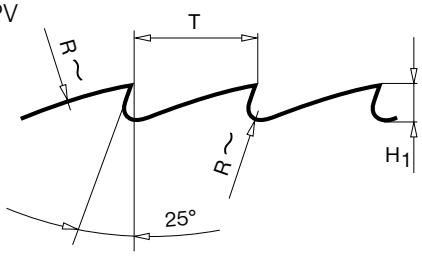
NV



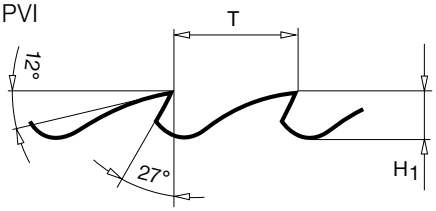
KV



PV



PVI



Bandsaw blades material

Standard – hardened strip from 80NiCr11 (DIN 1.2705) material

- material especially developed for the production of bandsaw machines
- the hardness of this material is 43±2 HRc, tensile strength 1430±80 MPa
- excellent mechanical and thermal properties, shape, stability and good cutting characteristics
- curved rear edge – significantly lowers the possibility of the occurrence of cracks on the back of the band

For saws with a lower cutting output – hardened strip made from 75Cr1 (DIN 1.2003) material

- mechanical characteristics similar to 80NiCr11 material, lower price
- the bands maintain the circuit particularly well
- unsuitable material for bands with a suaged tooth

Bandsaw blade toothing

Basic line of tooth profiles (for embossed toothing)

- see the drawings contained in this prospectus

Extended line of tooth profiles (for sharpened blades)

- more than 30 different tooth shape modifications
- upon request, we will send a catalog of the tooth shapes that we grind, free of charge

Tooth pitches

- standard, in the range from 20 mm to 50 mm, in steps by 2 mm or 5mm
- pitches in inches upon request

Bandsaw blade dimensional lines		
Dimension (mm)		Weight (kg/m)
Width	Thickness	
80	1,0	0,65
90	1,0	0,70
100	1,1	0,80
110	1,1	0,97
120	1,1	1,06
120	1,2	1,15
130	1,2	1,25
140	1,2	1,35
150	1,2	1,44
160	1,4	1,79

Bandsaw blade dimensional lines		
Dimension (mm)		Weight (kg/m)
Width	Thickness	
170	1,4	1,91
180	1,4	2,02
190	1,4	2,13
200	1,4	2,24
205	1,4	2,30
235	1,6	3,00
250	1,6	3,20
265	1,6	3,40

Original PILANA bands are always marked with the company logo, together with information regarding the material used.

We manufacture the bandsaw blade by pressing the teeth of the required shape into a hardened strip. In the case of a complete technological cycle, this is followed by the welding, the straightening and rolling, stellite tipping or beetling and then the sharpening of the teeth. During the course of all operations, the continual inspection of selected operations with the creation of a measurement protocol is undertaken.

Welding of the bands

We perform the welding on automatic welding machines. After welding, the band is thermally processed and grounded. We weld bands up to a width of 260 mm and up to a thickness of 1.65 mm.

PILANA quality:

- **IDEAL welding machines** – we only use welding machines from this manufacturer, who is weld quality approved
- **elimination of errors occurred by the human factor** – the process of welding and thermal processing is automated
- **the strength in the area of the weld is the same as throughout the entire band** – the entire weld has an even homogeneous structure, which ensures its excellent mechanical properties. This is achieved by the fact, that the welding speed is smoothly regulated, just like the temperature of the subsequent annealing. The welding head is guided by a precise ball screw.
- **inspection of the weld** – before being sent for further operation, every wide bandsaw blade is inspected for mechanical properties in the place of the weld, the surrounding area of the weld and for dimensional accuracy

In addition to welding of new bands, it is also possible to repair eventual cracks on used bands and even on bands from other manufacturers.

Straightening and rolling of the bands

A correctly rolled bandsaw blade rests against the wheels of the machine with its entire surface. This ensures high stability of the blade in the cut.

During the straightening and rolling of the bandsaw blades, the straightening out of the weld, the bulges, the depressions and the securing of the required mechanical properties (tensioning) for the specific cutting conditions takes place.

PILANA quality:

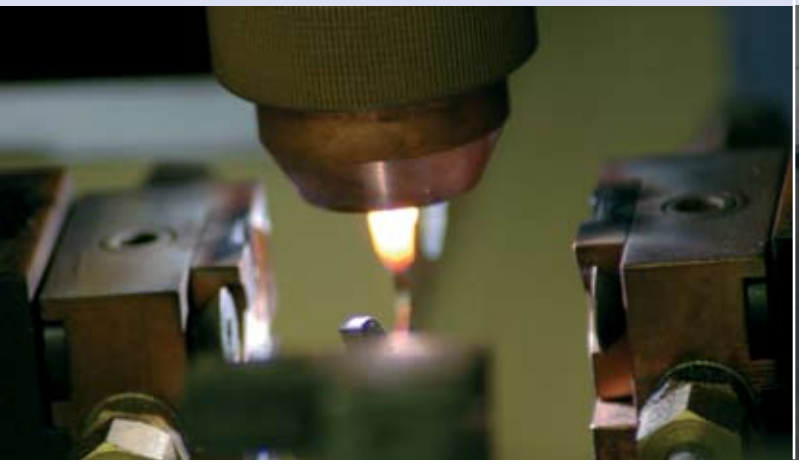
- **the Vollmer RC100 straightening and rolling center** – we only use this HI-TECH center which has an exceptional working precision
- **a straight cut and the stability of the blade in the cut** – the correct straightening and rolling, ensures that the bandsaw blade does not bite and that it sits excellently on the saw wheels
- **know-how** – we optimize the correct rolling of the band from a large amount of possible variations and combinations
- **elimination of errors occurred by the human factor** – all operations are totally automatic
- **free of charge output protocol** – the recording of information during the course of the rolling, the status of the band before and after rolling. We provide the protocol upon request.
- **individual access and archiving** – information regarding the course of the straightening and rolling is archived. Therefore it is possible, at anytime in the future, to precisely repeat the process in the greatest and unchanged quality.

ISO 9001:2000 – the entire process of manufacturing and inspection is certified by the quality control system. For trustworthiness, we completed the certification at the renowned Det Norske Veritas company.

Stellite tipping of the bands

Stellite tipping is a modern modification of the teeth for wide bandsaw blades. The foundation of this technology is the stellite surfacing on – a special alloy – the tips of the teeth of the bandsaw blade. After grinding, the stellite forms the cutting edge of the tooth. Advantages of stellite bandsaw blades:

- **excellent price parameter – output** – in comparison with spring set and beetled bandsaw blades
- **high resistance against wear** – provided by the high levels of hardness, sturdiness and the frictional resistance of the stellite tooth



PILANA quality:

- **the Vollmer Depomatic 3 stellite tipping machine** – we perform stellite tipping of the bandsaw blade tips by plasma welding the stellite
- **elimination of errors occurred by the human factor** – the CNC control of the entire process ensures accuracy and uniform quality welding of all teeth
- **stellite quality** – for the welding, we use stellite from the Deloro Stellite company. This guarantees us a constant high level of quality.

Due to reasons of economical cutting, we recommend the use of stellite wide bandsaw blades wherever it is technologically suitable, even though we also manufacture bandsaw blades with set and beetled teeth.

Teeth sharpening

We perform the grinding of the tooth profile to the shape according to customer requirements, on automatic profile grinding machines. For equalizing (aligning the side overlaps of the stellite weld to the teeth, to the value of the cut through) we use fully automatic machines with high accuracy. Improperly equalized teeth cause instability of the band in the cut and an uneven cut.

PILANA quality:

- **the Vollmer CA200 (profiles) and Vollmer CBF310 (levelling) grinders** – top machines in the field of bandsaw blade grinding
- **high life expectancy of band I** – the high accuracy of the grinder enables the removal of the smallest possible cutting necessary for repeated sharpening of the tooth profile
- **high life expectancy of band II** – the advanced grinding technology ensures the high-quality of the ground surface. Therefore there is no occurrence of cracks because of grinding that is too course.
- **elimination of human error** – the CNC control of the entire grinding process ensures the constant high quality of grinding
- **large variability** – it is possible to sharpen over 30 basic shapes of teeth, the profiles can be combined with an adjustable tooth depth, pitches and cutting angles
- **the winter tooth** – it is possible to integrate an element called the "winter tooth" into some profiles, which ensures higher cutting productivity for very hard or frozen wood
- **excellent cutting properties** – a quality sharpened tool has an effect on the output of the band and the quality of the cut. This is ensured by continual measuring and inspection of all important grinding parameters.
- **output protocol free of charge** – the protocol records information for all measuring undertaken during the course of grinding. We provide the protocol upon request.
- **archiving** – the information regarding the course of the grinding is stored for possible use at a later date

Service and advice

We will be pleased to provide you with the service for the entire lifespan of the wide bandsaw blade. We can sharpen, straighten and roll the bands and renew the stellite, beetling or setting of the teeth. Please contact us if you encounter any problems during the cutting process and we will be pleased to help you solve them. We most likely have experience of a similar problem, which we have already helped our customers solve in the past.

The advantages of tools service directly from the manufacturer

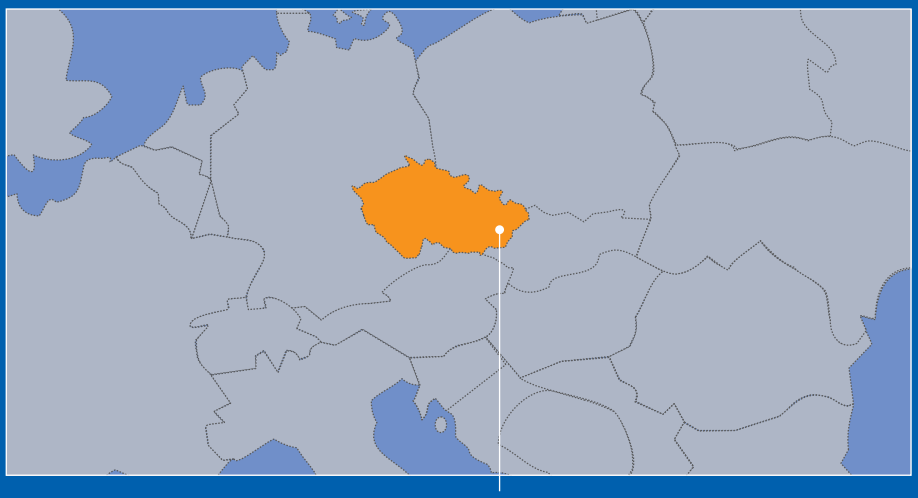
- **many years of know-how**–in our profession we ourselves train others, we also apply our experiences from production and development of new products in the area of servicing
- **top-quality of service operations** – we perform the service of the product using technologies that are used in production
- **seriousness** – if the bandsaw blade will be worn to such a degree that its renovation will not be advantageous for you, then we will let you know about it
- **flexibility** – we also service other brands of bandsaw blades
- **advice** – we help our customers during the selection of the most suitable band and during the removal of problems occurring during the course of cutting from the incorrect use of bands. In warranted cases, we cooperate in the removal of problems directly at the customer's operation facilities.

Advice and cooperation with our customers is a valued source of information for us, for the development and the optimization of the cutting parameters of the PILANA wide bandsaw blades.

Correct use of bandsaw blades

- the maximum cutting speed of every bandsaw blade is prescribed by the manufacturer of the bandsaw machine
- the harder the material, the lower the cutting speed should be
- during the cutting of softwood it is suitable to use a greater teeth span and on the contrary, during the cutting of hardwood it is suitable to use a smaller span
- before you begin the cutting, it is necessary to check if the bandsaw blade is correctly sharpened and that it is not damaged or burned (this is shown by purple discoloration, even after the band cools down)
- if the band is burned during cutting, it is necessary to immediately put it out of operation and after it cools down to sharpen it again and inspect the straightness

- in order to prevent burning, it is necessary to secure timely sharpening and to maintain the cutting conditions
- it is necessary to replace the bands regularly even if the teeth are not dull, this way their mechanical properties will be maintained
- the bandsaw blade must be sufficiently tensed inside the machine (but not too much, otherwise there is a danger of rupture; according to the instructions of the manufacturer of the machine)
- during cutting it is always essential to have the band at full revolutions, be particularly careful at the beginning and the end of the cutting
- put the band out of operation in the case of the occurrence of cracks
- never leave the bandsaw blade tensed in the machine after completion of work, always release it
- the bandsaw blades are instruments which are sensitive to the grinding quality of the teeth – it is necessary to use a grinding wheel with a medium fine grain, not to overheat the band material and to wet grind with a grinding roughness of Ra <3.2
- the cracks between the teeth occur in the grooves, which were created by a grinding wheel that was too hard
- it is necessary to measure the sharpened angles with an angle gauge, it is not possible to rely on the setting of the grinder
- during operation, the bandsaw blade and the wheels of the machine must be continually lubricated
- cuttings must not get in between the wheel and the band, it is necessary to regularly inspect their cleanliness.
- any type of latitude in the wheel bearings is not desired – the throw values for the radial values should not exceed 0.03 mm and for the axial values 0.1 mm
- the system for band tensioning should be maintained in a fault free status, in order to allow the thermal dissipation of the band (during the workload, the band extends by about 1 mm while heating up by 15°C)
- the profile of the wheels should constantly have the recommended values, their professional service is necessary during excessive wear



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