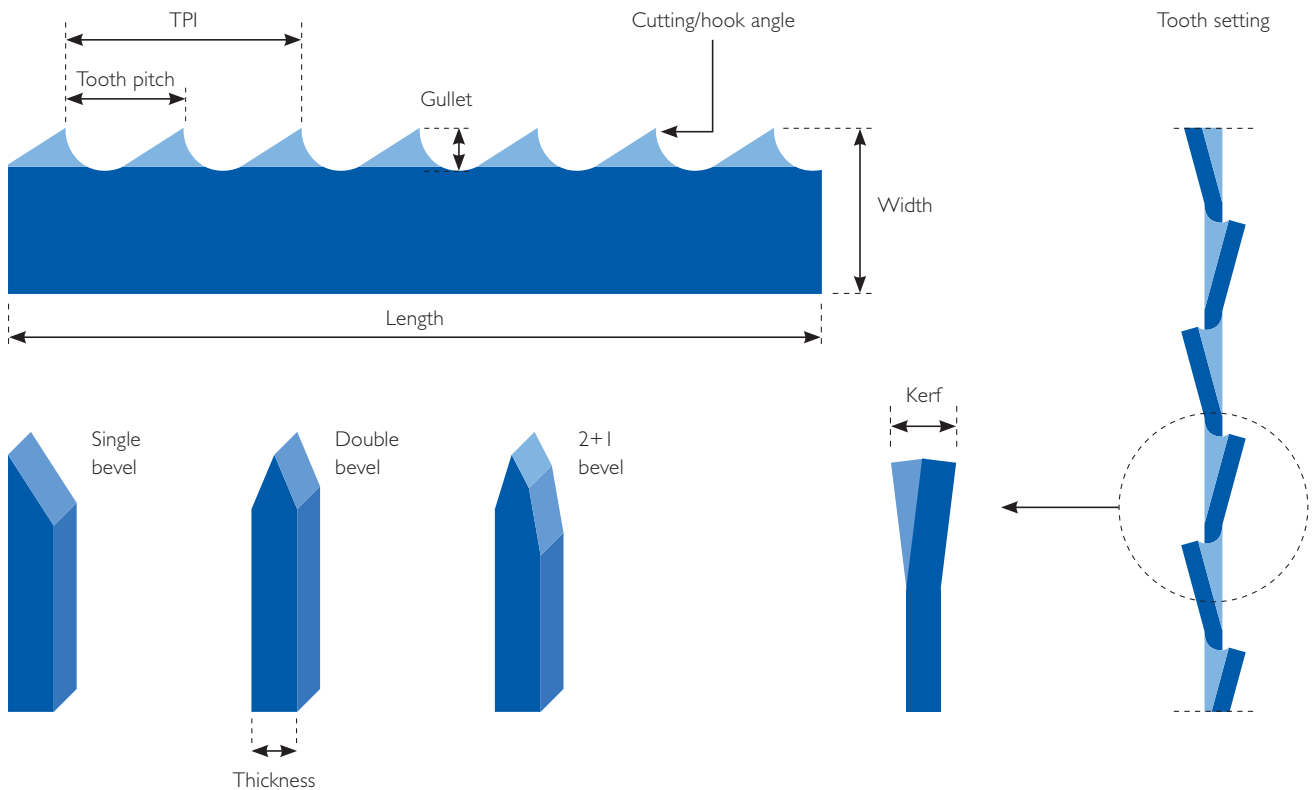


Blade terminology



Width

The width of a blade is the distance between the tip of the cutting edge (tooth tip) and the back of the blade.

Thickness

The blade stability increases proportionally with the blade thickness. As a rule of thumb, the machine wheel diameter should be 1000 times larger than the blade thickness.

Length

The length of the welded blade, which is dictated by the band saw machine. Depending on the machine type, the tolerance varies from +/- 0.15 mm to approx. +/- 8 mm.

TPI

TPI = Teeth per inch. The actual number of teeth within every inch (25.4mm) of the blade. Several teeth per inch are required for finer surfaces and thinner sections while fewer teeth per inch are required for faster cutting and thicker sections.

Tooth pitch

The distance from one tooth tip to the next. A finer tooth pitch is required for finer surfaces and thinner sections and a coarser pitch is required for faster cutting and thicker sections.

Gullet

The gullet depth, or tooth height, is the distance from the tooth tip to the bottom of the gullet.

Tooth configuration

The tooth configuration is the shape of a tooth and is dictated by the application and the desired result.

Cutting angles

The angle of the tooth face from a line perpendicular to the back of the blade. The ideal cutting angle depends on the hardness of the material that is to be cut. The harder the material, the lower the cutting angle. More aggressive hook angle are used for softer materials or powerful band saw machines. Standard hook angles are 1°, 3° and 6°.

Tooth setting

The tooth setting indicates the extent of free-cutting. The teeth are bent sideways, right to left, in a symmetrical pattern. The smaller the setting, the less yield loss, but if the setting is too small frictional heat and overload might occur.

Kerf

The blade clearance through the cut, which is equivalent with the sum of the total setting and the blade thickness.

Hardening

In most cases the tooth tips of the bandsaw blades and the edge of the slicing blades are hardened to perfection. This gives the blade a harder edge while the back of the blade remains tough and flexible.

Bevels

On smooth/plain blades without teeth, bevels are used to create the cutting edge. On a single beveled blade there is only a bevel on one side. On a 2+1 beveled blade there are two bevels on one side and one on the other.