HS TIMBER

QUALITY CLASS DESCRIPTION

Pine (Pinus spp.)

MEASUREMENT GUIDELINES / DEFINITIONS
(ACCORDING OEHHU 2006)

Knots

The measurement is done on the point of the biggest diameter, without taking the starting yearrings of the knot into consideration.

Healthy knots = are grown together with the surrounding wood mass.

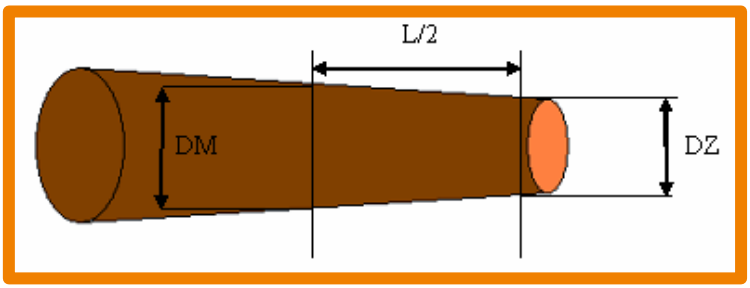
Dropping knot = are not crooked with the surrounding wood mass; regularly with bark around the knot.

Healthy knot

Dropping knot

Conicity, Taper

Conicity is a decreasing of the diameter with the length of the log.
Round wood is considered as conical when the diameter drops more than 1 cm per 1 running meter.
Conicity is **electronically** measured and given in cm/lfm. The measurement is done from the middle to the top of the log, so it is guaranteed that starting roots are unmeasured.



DZ – top diameter
DM – middle diameter

$$Taper = \frac{DM - DZ}{L/2}$$

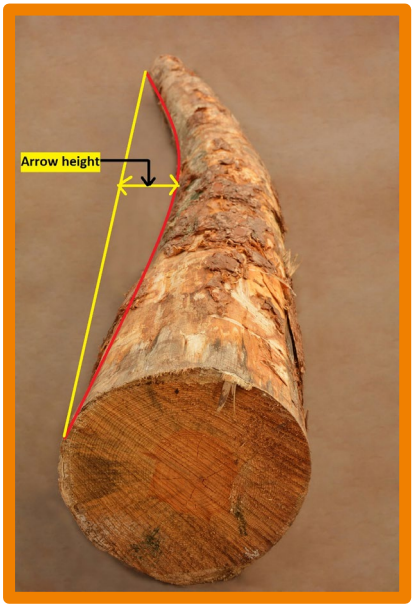
Spiral growth

Spiral growth is the screw-like course of the wood fiber around the rotation axis. It is given in cm/lfm or %.

Curvature, Crookedness

Curvature is the deviation of the longitudinal axis from the straight line. The curvature is measured **electronically** and can be one- or two-sided.

One-sided curvature is defined with only one bending. Two-sided curvature can show two or more bends in one ore multiple plans. The curvature is given in percent of the middle diameter to the reference line (yellow line).



$$Curvature = \frac{arrow\ height\ (Pfeilhöhe)}{Middle\ diameter} * 100$$

Compression wood („Buchs“)

Is a due to deposition of the tree built reaction wood and there is more lignin storage in the late wood than in a normal tree. It is characterized by a brown-red coloration, which is following the yearring. It is measured in percent of the visible surface.

Cracks

Relevant are frontal and core cracks and also cracks on the lateral surface. Logs with just superficial frontal and core cracks are not downgraded, whereas logs with deep frontal and core cracks and also cracks on the lateral surface are downgraded.

Crack on the lateral surface

Superficial frontal core crack

Insects

Relevant are beetles, lineatus and wood wasps.



Colorations / rots

Relevant are blueness and red stripes.

Blueness

Red stripes

Rots are divided into hard- (nail-proof) and soft- (not nail-proof) rot.

Nail proof

Not nail proof

Classes and limiting values AB, C, Cx

property	AB		C		Cx
MDM	*≤ 29 cm*	*≥ 30 cm*	*≤ 29 cm*	*≥ 30 cm*	*all*
Knots general	Healthy knots up to 5 cm and dropping knots up to 3 cm diameter	Healthy knots up to 5 cm and dropping knots up to 3 cm diameter	Healthy knots up to 6 cm and dropping knots up to 4 cm diameter	Healthy knots up to 7 cm and dropping knots up to 5 cm diameter	Very prominent knoted pieces in combination with other properties e.g.: big taper allowed; the usage as sawable log must not be affected!
Knots limited	1 piece healthy knot with up to 8cm and 1 piece dropping knot with up to 5 cm per running meter	The amount of allowed knots is increasing by 50% (e.g.: 1.5 healthy knots with 5-8 cm	3 pieces healthy knots with up to 8 cm or 3 pieces dropping knots up to 6 cm per running meter pro lfm	3 pieces healthy knots with up to 9 cm or 3 pieces dropping knots up to 7 cm per running meter	
Spiral growth	Up to 5 cm per running meter	Up to 7 cm per running meter	Up to 8 cm per running meter	Up to 10 cm per running meter	Allowed
Conicity	Up to 1,5 cm per running meter allowed		Up to 2,5 cm per running meter allowed		Big taper allowed (max. 3,4 cm/lfm)
Curvature	One-sided curvature up to a deviation of 15% Two-sided curvature is not allowed		One-sided curvature up to a deviation of 19% Two-sided curvature up to 10%		One-sided 32% two-sided curvature 18%
Compression wood	Up to 10 % off the visible surface		Up to 10 % off the visible surface; prominent knoted pieces with more than 5 resin pouches max. 33%		Allowed
Frontal-, core cracks	Superficial frontal and core cracks, which are not getting deep into the wood are allowed		Superficial frontal and core cracks, which are not getting deep into the wood are allowed		Deep frontal cracks allowed
Lateral surface cracks	Not allowed		Not allowed		One crack on the lateral surface allowed
Colorations	Not allowed		Superficial beginnings of colorations are accepted		Allowed
Rots	Not allowed		Small brown spots (nail-proof) in the area of the roots accepted		Small brown spots (nail-proof) in the area of the roots accepted
Insects	Not allowed		Not allowed		Lineatus partly allowed

Industrial round wood, IH

Logs which are not sawable must be classified as industrial round wood. Occasionally the classification as IRH is a combination of multiple mistakes of the wood.
For instance: Bifurcation, scorched pieces, wood with holes, logs with a high amount of soft rot, broken pieces und strong insect attacks.



Special case resinated pine

If pine log is resinated just on one side and the rest of it is suitable for AB, the log will be classified as Cx.
If the pine log is resinated at two sides and / or the rest of the log is not suitable for AB, the log will be classified as IH.


Contact

RĂDĂUȚI
Str. Austriei nr. 1, 725400 Rădăuți, jud. Suceava, ROMÂNIA
Tel.: +40 230 207 400
Fax.: +40 230 207 399
radauti@hs.ro

RECI
Comuna Reci nr. 673, 527145, jud. Covasna, ROMÂNIA
Tel.: +40 367 800 188
Fax.: +40 372 146 599
reci@hs.ro