

10 Summary of Limitations

Permissible limits for General Structural Temperate Hardwood (TH1 and TH2) visual strength grades

Characteristic		Grade	
		General Structural (TH1)	General Structural (TH2)
Knots		Not greater than 0.25 of the thickness or width to which it relates.	Not greater than 0.75 of the thickness or width to which it relates.
Longitudinal separation of knots		Knots accumulative if longitudinal separation is less than twice the width or 300mm (whichever is the lesser) or when the grain has not full recovered.	
Slope of grain		Not greater than 1 in 10. Within 500mm of ends, not greater than 1 in 5.	Not greater than 1 in 4.
Fissures -			
	Through the thickness	Only permitted at ends with length not greater than the width of the piece.	
	Not through the thickness	Not greater than 1m or ¼ the length of the piece.	
Wane		Full edge and face dimensions may be reduced by up to one third of the dimensions of the piece. Length of wane is unlimited.	
Distortion	Bow	Not greater than 10mm over a length of 2m.	
	Spring	Not greater than 8mm over a length of 2m.	
	Twist	Not greater than 1mm per 25mm width over a length of 2m.	
	Cup	Unlimited.	
Bark pockets		Within 500mm of the ends, not greater than the width of the piece. Elsewhere not greater than 1.5 times the width or 0.2 times the length of the piece, whichever is the lesser.	
Biological damage and other defects		Worm holes and pin holes are permitted provided they conform to the requirements in 4.8 of BS 5756: 2007. No active infestation is permitted. No decay is permitted other than in unsound knots. Stain free from decay is permitted.	
NOTE 1: The length of fissures and the amount of distortion are linked with moisture content, therefore, the limits given can only be applicable at the time of grading.			
NOTE 2: Additional requirements for laminations are given in BS EN 386.			

Permissible limits for General Structural Temperate Hardwood (THA and THB) visual strength grades

Characteristic	Grade	
	Heavy Structural (THA)	Heavy Structural (THB)
Knots	Not greater than 0.2 of the thickness or width to which it relates.	Not greater than 0.75 of the thickness or width to which it relates.
Longitudinal separation of knots	Knots accumulative if longitudinal separation is less than twice the width or 300mm (whichever is the lesser) or when the grain has not full recovered.	
Slope of grain	Not greater than 1 in 12. Within 500mm of ends not greater than 1 in 6.	Not greater than 1 in 4.
Fissures -		
Through the thickness	Only permitted at ends with length not greater than the width of the piece.	
Not through the thickness	Not greater than 1m or ¼ the length of the piece.	
Wane	Full edge and face dimensions may be reduced by up to one third of the dimensions of the piece. Length of wane is unlimited.	
Distortion	Bow	Not greater than 10mm over a length of 2m.
	Spring	Not greater than 8mm over a length of 2m.
	Twist	Not greater than 1mm per 25mm width over a length of 2m.
	Cup	Unlimited.
Bark pockets	Within 500mm of the ends, not greater than the width of the piece. Elsewhere not greater than 1.5 times the width or 0.2 times the length of the piece, whichever is the lesser.	
Biological damage and other defects	Worm holes and pin holes are permitted provided they conform to the requirements in 4.8 of BS 5756: 2007. No active infestation is permitted. No decay is permitted other than in unsound knots. Stain free from decay is permitted.	
NOTE: 1: The length of fissures and the amount of distortion are linked with moisture content, therefore, the limits given can only be applicable at the time of grading.		