



European Beech – *Fagus sylvatica*

Other Names: English, French, German Beech (according to origin)

Region of Origin: Central Europe

SPECIES OVERVIEW:

European Beech heartwood and sapwood are cream to pale pink in colour with a straight grain and fine, even texture. It is common practice to steam the timber, which turns it to a darker pink-red colour.

MAIN USES:

Furniture and cabinetmaking, interior joinery, turnery, tool handles and general wood ware.

WORKING PROPERTIES:

Beech offers medium resistance to hand and power tools and has a moderate blunting effect. Pre-boring is necessary for nailing, it glues easily, stains well and takes an excellent finish.

MECHANICAL PROPERTIES:

The steam bending properties are extremely good, even tolerant of knots and irregular grain. It has medium stiffness, high crushing strength and medium resistance to shock loads.

AVAILABILITY:

Specifications stocked at Rosenfeld Kidson are: Sawn 25mm, 40mm, 50mm and 75mm thicknesses in mixed widths.

GRADING:

Prime.

DENSITY (kg/m ³)*:	720
DURABILITY:	Non-durable

STRENGTH GROUP:	SD4
MOR (MPa):	109
MOE(GPa):	13.3
JANKA(kN):	6.5

SHRINKAGE GREEN TO 12% M.C.	Tangential	Radial
	9.0	4.0

*Air Dry Density (kg/m³) is average indication only and actual value may vary. Refer to timber properties tables over page for strength, shrinkage and durability classifications.



STRENGTH GROUPINGS:

Minimum values for strength groups (unseasoned timber)			
(units are Mpa = 145 lb/sq.inch)			
Strength group	Modulus of rupture	Modulus of elasticity	Maximum crushing strength
S1	103	16300	52
S2	76	14200	43
S3	73	12400	36
S4	62	10700	31
S5	52	9100	26
S6	43	7900	22
S7	36	6900	18

Minimum values for strength groups (seasoned timber)			
(units are Mpa = 145 lb/sq.inch)			
Strength group	Modulus of rupture	Modulus of elasticity	Maximum crushing strength
SD1	150	21500	80
SD2	130	18500	70
SD3	110	16000	61
SD4	94	14000	54
SD5	78	12500	47
SD6	65	10500	41
SD7	55	9100	36
SD8	45	7900	30

SHRINKAGE CLASSIFICATIONS:

Description of shrinkage	Shrinkage from Green to Oven-dry (12% MC)	
	(% before reconditioning)	
	Tangential	Radial
Very low	0 - 3.5	0 - 2
Low	3.5 - 5.0	2 - 3
Medium	5.0 - 6.5	3 - 4
High	6.5 - 8.0	4 - 5
Very high	> 8.0	> 5

DURABILITY CLASSIFICATIONS:

Grade of durability	Approximate service life (years)		
	Fully protected	Above ground, exposed	In-ground, exposed
Very durable	>50	>40	>25
Durable	>50	15-40	15-25
Moderately durable	>50	7-15	5-15
Non-durable	>50	0-7	0-5