

BRIDGES ♦ BOARDWALKS ♦ JETTIES

All hardwood is a natural living material and it is quite normal to see cracks and splits occurring after processing and installation. This is the result of drying out over a period of time.

The structures supplied by SHS are constructed using non-seasoned (Green) hardwood, which has a relatively higher moisture content compared to seasoned hardwood. Due to the nature of our business, all of which is bespoke, hardwood section sizes and lengths cannot be pre-determined until designs and calculations are approved and component parts can only be produced from non-seasoned hardwood.

Hardwood, being a hygroscopic material will tend to pick up moisture from the atmosphere if it is dry and give it out if it is wet, in relation to the ambient conditions. With this pick up and loss of moisture, timber will expand and shrink.

The "Handbook of Hardwoods" (published by HMSO) details a hardwood such as Ekki as being a large movement timber in its response to changes in moisture content. More specifically, a 1% change in moisture content could result in up to a 0.4% change in tangential dimension.

It should also be noted that the more dense the hardwood the slower the rate of change in moisture content.



Typical fissures in Ekki

particularly if a dark surface finish is applied or if the hardwood is of a naturally dark colour.

It is generally accepted by British Standards (re: BS 5756) that a fissure size no greater than one third in depth from the outer face of the section thickness of the piece is within permissible limits and that the fissures may be unlimited in number, wherever they occur in the piece.

It should also be anticipated that further fissures may develop in response to future seasoning and that they rarely have any significance to the integrity of a structure. These fissures will reduce as the natural seasoning matures and the core of the hardwood continues to dry.



constructed in natural hardwood

Surface fissures, (otherwise known as splits, cracks, checks, etc) are forms of fibre separation found in hardwood and are often associated with large dimension sections. The larger the sections of hardwood, the longer the drying period to achieve uniform moisture content across the section. It is usual to find, in sections greater than 75 mm square, a moisture content that is that is higher in the centre than it is towards the edges. The hardwood in the centre, with its higher moisture content does not shrink and prevents the outside zone of the section from shrinking. The resultant drying stresses relieve themselves as surface fissures. The degree of fissuring is likely to be exacerbated if the hardwood is exposed to high levels of hot dry weather heating during the initial stages of natural drying,