



Andrew Kidney
Production Director
Balcas Timber Ltd.

Andrew Kidney is Production Director of Balcas, one of the largest wood product suppliers in Britain and Ireland with a turnover of circa £80m. Balcas currently operates from three sites in Enniskillen, Kildare and Invergordon in Scotland, two of which are CHP plants.

A sawmiller's practical approach to timber in ground contact

The majority of the Irish softwood availability is Sitka spruce. Due to the natural durability of this species, certain pre-treatment techniques need to be employed to ensure long service life. In the recent past there had been a loss of confidence in the performance of home-grown spruce through premature heartwood failures in service of ground contact timbers. This was due to a number of factors including poor timber conditioning prior to treatment, little or no sapwood in the timbers being treated and a resultant low chemical retention in the wood.

It has long been accepted in the sawmilling industry, that to penetrate timber cells with preservative solution, we must first make room for it by removing some of the free water that is naturally present from when the timber was still a tree.

Many of the species of home grown softwood timbers, and Sitka spruce in particular, are either naturally difficult to penetrate with preservative or have significant hard to penetrate heartwood sections once they have been machined ready for treatment.

The industry standard for preservative treatments, BS8417, now identifies surface incising as a method of achieving heartwood penetration to achieve the service life expected in certain markets.



Depth of preservative on non-incised (left) and incised (right) Sitka spruce round fencing posts.

Incising machine for round posts



Incising overcomes the issue of penetrating the difficult to treat heartwood therefore providing the timbers with a good envelope of chemical protection and a resulting improved treated timber product. The effectiveness of incising is dramatic and I understand that research has shown that the service life of treated spruce can be doubled with incising due to the improved protection.

The surface incising of timbers prior to high pressure preservative treatments is nothing new. Balcas first used this technique in the 1970s on the first machined rounds.

The technique is used to allow a deeper and more consistent penetration of the wood preservative, usually into ground contact fencing and landscaping timbers, to help achieve a more effective long term protection. These Use Class 4 (EN335) timbers are subject to the highest threat from wood destroying organisms. In those early years of round post production, the preservative chemicals were so toxic and effective, that they allowed a tolerance of the best practice pre-treatment conditioning.

However, Balcas and the industry in general, realised the need to revisit this technique and develop new incising technologies that can be integrated into our modern sawmill production lines. This will help us produce an in ground contact product that would deliver even more assured performance from the treated timbers.

Balcas has recently installed two latest technology incising machines for both sawn and round timbers. In conjunction with pre conditioning moisture removal, careful application of this incising technology, and meticulous process control of our treatment plants, we can have the utmost confidence in the longevity of our Irish grown in ground contact products.

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