



Serving the Forest Products Industry in Products Development, Process Improvement and Training

TECHNICAL NOTE – LVL PRODUCTION ON CONTINUOUS PRESS SYSTEM

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SUMMARY

The various financial and technological benefits the CPS line compared to conventional lines are discussed. Readers should be able to formulate detailed and specific financial analysis suited to their situation. Below is an outline of the most direct benefits of the new LVL technology.

- 1) 2.5% increase in dryer production and better dryer recovery due to reduced breakage loss.
- 2) A minimum of 5% reduction in glue consumption.
- 3) Over 23% reduction in cycle time over RF processes.
- 4) Over 41% reduction in cycle time over conventional processes.
- 5) Increased product consistency resulting in increased post-stress graded veneer yield.
- 6) Increased LVL moisture content resulting in increased post-stress graded veneer yields and reduced need for moisture sealing depending on shipments and destinations.

It is our hope that this document provides sufficient basic information to be considered in the determination of the financial benefits of the new line. It should be noted however, that the impact of the above listed benefits on the unit cost of LVL is dependent on the specific cost structure of each operation. This document is based on the experiences of TTS on the first CPS line designed to manufacture LVL. Some of the factors that could be serious constraints to the level of actual benefits are essentially specific operational strategies adopted by mills considering the purchase of the CPS line. These include:

- 1) Veneer preparation and handling.
- 2) Start-up strategy.
- 3) Pressing strategy.
- 4) Current and future product mix.
- 5) Other operational activities, i.e. quality control etc.

These variables can actually be dealt with only in operation. However the fact that there is sound evidence in the underlying assumptions mitigate the risk of not realizing the benefits of the CPS line for LVL manufacture.

CONCLUSION

LVL is currently sold on the basis of products standard, which is specific, to specific manufacturers. Due to the growing market for engineered wood products there is an increasing number of manufactures, each with its own proprietary product standard, coming into the market place. This will continue to create confusion among users in the market place and there is already a push towards the development of a performance standard. Such a standard is actually developed for I-Joist by APA. It is a matter of time before LVL follows the same route. The implication of this is that engineered wood products will start being sold in the commodity market based on performance, not as a matter of choice but due to the evolution of the product and its growing abundance.

While the market for engineered wood products will continue to increase in the foreseeable future, most of it is going to be enjoyed by a younger generation engineered wood product; Laminated Strand Lumber (LSL) which is recently introduced for the same applications as LVL. While the capital cost for LSL may be relatively higher, this product does not require the high grade feed stock required for manufacturing veneer and the process uses relatively faster pressing cycles, thus making LSL more price competitive than LVL. In this regard we find it worth reminding readers what OSB did to plywood in the past 15-20 years and the initial reaction of most plywood manufacturers.

The above points are serious strategic issues that need to be considered in planning for the development of a new LVL operation today. Given the current state of available technology and knowledge of the material, it is economically feasible to manufacture LVL with even more uniform and more predictable properties. Besides its implications on production efficiencies, this enables LVL to get into more demanding applications with better value. Some of the major challenges, however, have been the manner in which veneer is prepared and handled to cope with what the technology has to offer. While there may be some experience that can be transferred from plywood processes into making LVL, LVL is very far from a glorified plywood product.