

MOTG/CPPA hold joint meeting on chip quality and processing equipment

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The Millyard Operators Technical Group (MOTG)—North held its third annual spring meeting jointly with the Canadian Pulp and Paper Association (CPPA) Committee on Woodyard Management in Glens Falls, N.Y., May 30–31. Chaired by Gordon G. Jones of Finch, Pruyn & Company, Inc., and Denis P. Fournier of Klockner Stadler Hurter Ltd., the meeting was well attended with more than 140 registrants. The program's 16 presentations focused on topics ranging from control of chip quality in wood processing equipment such as debarkers, chippers, and screeners to woodyard layout, portal crane protection, and wood chip conveyors.

J. Robert Prough of Kamyr Inc. discussed how environmental and pulp quality issues will drive the future demands for still better chip quality. As a result of environmental limits on chlorine emissions, for example, the bleaching process can no longer be used to compensate for variability in the quality of pulp. In order to reduce chlorine emissions, pulp quality must be more uniform and cooked to lower kappa numbers. To achieve this, high quality wood chips must be fed to the digester.

Debarking methods

Debarking, using methods other than a drum debarker, was discussed in four papers. Jack Nantz, Peterson Pacific Corporation, tracked the development of the chain flail delimber from the early 1980s to date. Chain flails now permit whole tree processing in the field to delimb trees and reduce bark levels to less than 1%. Fiber yield increases up to 25% over conventional logging methods are achieved by recovering fiber from treetops and from a wide range of log lengths and diameters. Field units are now available which can process up to 60 tons of wood per hour. The processed wood can then be fed into any disc chipper. In addition to the advantage of increased fiber, this method of wood processing improves land reclamation and minimizes the need for road building typically required for truck hauling of trees.

Murray Hutchins and Bill Feyrer, Nicholson Manufacturing Company, presented information on advances in ring debarking, such as the development of the tandem ring debarker.

Several speakers discussed methods to produce quality chips at the chipper. According to Mark Robinson of Carthage Machine, reducing the number of impact surfaces and the angle of impact within the chipper can dramatically reduce the pins and fines levels.

David Graham of International Knife and Saw discussed the care of chipper knives. He emphasized that more machine knives are ruined by excessive heat generated in grinding than from any other single cause. Proper grinding and honing will ensure good chip quality, he said.

Chip quality and thickness screening

Jim Hare of Kone Wood Inc. presented two innovative chipper designs to improve chip quality. The twin chipper design treats long wood and short/broken wood separately. The long logs are fed horizontally into the chipper; the broken wood is dropped out along the infeed conveyor, then elevated and introduced to the chipper in a drop feed chute. In actual feed comparisons, the twin chipper produces 5% more accepts and 3% fewer overthicks. The HQ Chipper features a drop feed chute designed for multiple sticks and small-diameter material. By tilting the disc so that the infeed angle is decreased, the wood is held more tightly against the disc. This results in a "square" chip with 8–10% more accepts and 5–7% fewer pins and fines.

Chip thickness screening was discussed by Bernie O'Connor of Consilium Bulk and Darrell Lynn of Rader Co. O'Connor focused on manufacturing methods necessary to ensure the level of precision and durability required of a disc screener to meet and maintain chip thickness screening performance. Such manufacturing methods have enabled Consilium to develop a Disc Screen Wood Chip Classifier for continuous, on-line classification of wood chips using precision-based 8-mm and 2-mm discs followed by a vibratory section for separation of dust and fines.

During the meeting, Rader unveiled its new "nonshaft, nondisc thickness screen" called Dynagage. Instead of discs, Dynagage uses rugged bars running the length of the machine. Alternating rows of bars rise and fall in a circular motion, which both separates accepts from overs and conveys the material. Based on four months of field testing, separation efficiencies in excess of 90% with approximately 6% accepts carryover are being achieved, the company reports. The key advantages of this screener are

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no rotating wear surfaces and easily adjustable IFO. And, because there is no pull-through effect, slot tolerance is not as critical as on the disc screen. Bar life is estimated at five years.

Woodyard layouts for log storage

A comparison of woodyard layout for log storage using a portal crane compared to rolling stock was presented by Fred Hansen of Kranco Material Handling, Ltd. Using a 350,000-m³ long log storage area as an example, he showed that rolling stock requires 69 to 120 acres compared to 45 to 60 acres for a high deck crane and only 14 acres for a portal crane. Based on a 10% cost over the 25-year expected life of the portal crane, the annual operating cost of a portal crane system is 60% of a rolling stock woodyard.

Methods for protecting a portal crane from damage due to high wind were discussed by Gary A. Otto of Harnischfeger Corporation/P&H. Several means of providing additional emergency braking capacity, such as using friction buffers along the end of the runway, can reduce the stopping distance by 1/3 in winds as high as 70 mph. In addition, several alternatives for securing the crane using wheel chocks or a hole/pin arrangement were discussed.

New scholarship program

MOTG-North's newly established scholarship program was announced the final morning of the meeting. The scholarship committee selected John Stelmokas, who is studying forest sciences at the University of Massachusetts at Amherst, as the first recipient.

The next MOTG-North meeting will be in Wausau, Wis., Dec. 5-6, 1991. □

CORRECTION

Correction to Papermakers Conference report

The 1991 Papermakers Conference report on p. 201 in the July issue of *Tappi Journal* unintentionally misidentified two of the conference planners. Joseph Wilson served as conference chairman and Ellen B. Warner served as technical program chairman.