Common Roll Alignment Technologies

Technology	Advantages	Disadvantages
Pentaprism-Based Laser Systems	• Moderately accurate • Somewhat lower price • Better than optics	• Complicated, long set-up • Potential for significant errors • Require proprietary data box and software • Labor-intensive (require 2 operators)
Laser-Tracker Devices	• Very accurate • Useful for new machine installations • Offer X-Y-Z dimensions at each point	• Very expensive • Complicated to use • Need engineer to operate • Require complicated software • Labor-intensive (require 2 operators)
Gyroscope-Based Technology	• High resolution • Fast and easy to use	• Extremely expensive • Provide measurements only • Does not offer real-time data measurement for aligning rolls • Available only as an expensively priced service in the USA • Accuracy of the system is not specified • Requires periodically repeating the initial set-up
Multi-Plane Auto-Rotating Lasers (See note, below*)	• Highest accuracy in industry • Fastest system for checking and aligning rolls • Very easy to learn and use • Much less expensive than laser-tracker and gyroscope-based technologies	• Somewhat higher price than pentaprism laser technologies • Cannot measure X-Y-Z dimensions

* Multi-plane auto-rotating laser systems offered by Hamar Laser Instruments:

- The L-742 Ultra-Precision Dual Scan® Alignment System for higher-accuracy applications, and
- The L-732 Precision Dual Scan® Alignment System for lower-accuracy applications.