



MEMORANDUM

To: CLSAB Members
From: Chuck Dentelbeck, President & CEO
Date: July 21, 2023
Subject: CLSAB Approved MSR Machines

The following MSR Machines are currently approved by the CLSAB:

Grading Machines Approved by the CLSAB Operations Committee	
Grading Machine	Operation limitations
1. C-L-T - Continuous Lumber Tester	
2. Metriguard Model 7200Is	
3. XLG (X-Ray Lumber Gauge)	<ul style="list-style-type: none"> the use of visual slope of grain requirements for the various grade levels as found in ASTM D-245 unless the X-Ray Lumber Gauge is used in conjunction with another method to evaluate slope of grain the moisture content of the stock being controlled and taken into account for the design value assignments the use of accredited agency quality control and certification procedures. If short runs are made, intensive sampling will be done through the accredited agency quality control program.
4. XLG (X-Ray Lumber Gauge) and XLG with E-valuator	<ul style="list-style-type: none"> Operational feed speed 800 ft/min – 2500 ft/min Operational temperature -30° C to 50° C Material sizes 2x3 to 2x12 Metric thickness 33 mm to 55 mm Metric width 70 mm to 300 mm To eliminate planer noise that may affect the laser profile subsystem the machine must not be close-coupled with the planer and board flow must be relatively smooth. Abrupt changes in feed speed and non-fluent board flow adversely affect frequency measurement and should be avoided.
5. Cook Bolinder - Model SG-TF	
6. Dart MSR Testing Machine	
7. Computermatic MK5A	
8. Dynagrade - Model 1B - and Model 1B HC	
9. Wescalco - Model 21250LC1	
10. Wescalco Electronic Board Tester - Model #2(ETB-2)	

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11. Conception R.P. Inc. - Model CRP 360	<ul style="list-style-type: none"> • Machine environmental conditions: <ul style="list-style-type: none"> • Ambient operating temperature-0 to 50 degrees Celsius • Ambient humidity conditions-up to 90% humidity, no condensing • <u>Operational speed</u> -The maximum operational speed is up to 1200 feet per minute. • <u>Lumber thickness</u> -The thickness range is up to 2 inches • <u>Lumber width</u> -The lumber width range is from 3 inches to 6 inches. • <u>Length capacity</u> -The minimum length of a piece of lumber that can be effectively graded is four feet. • <u>Lumber temperature</u> -The recommended lumber temperature operating range is -20° C and up. • <u>Number of grades</u> - Four different grades simultaneously
12. CRIQ Transverse Machines: a. MODEL: TMG- #630- PE32374	<ul style="list-style-type: none"> • <u>Temperature</u> - The equipment shall be operating at temperature above freezing point 32° F (0°C). • <u>Humidity</u> - The recommended environmental operating range for humidity is a maximum of 85% (non condensing). No lower limit. • <u>Operational speed</u> - The maximum operation speed is 160 pieces per minute. • <u>Lumber thickness</u> - The thickness range is from 0 inches to 2 inches. Variance in thickness has no mechanical influence on the machine. • <u>Lumber width</u> - The lumber width range is from 3 inches to 4 inches. • <u>Lumber length</u> - The minimum length of a piece of lumber that can be effectively graded is six feet. The maximum length is nine feet. • <u>Lumber temperature</u> - The recommended lumber temperature operating range is -4° F (-20° C) as lower limit. No upper limit. • <u>Number of grades</u> - The capacity to segregate up to three different grade categories simultaneously.
13. CRIQ Transverse Machines: a. MODEL: TMG-16 #630- PE33389 Machine:	<ul style="list-style-type: none"> • <u>Temperature</u> - The equipment shall be operating at temperature above freezing point 32° F (0° C) • <u>Humidity</u> -The recommended environmental operating range for humidity is <85% (non-condensing). No lower limit. • <u>Operational speed</u> -The maximum operation speed is 240 pieces per minute. • <u>Lumber thickness</u> -The thickness range is from 0 inches to 2 inches. Variance in thickness has no mechanical influence on the machine. • <u>Lumber width</u> -The lumber width range is from 3 inches to 6 inches. • <u>Lumber length</u> -The minimum length of a piece of lumber that can be effectively graded is five feet. The maximum length is sixteen feet. • <u>Lumber temperature</u> -The recommended lumber temperature operating range is -4° F (-20° C) as lower limit. No upper limit. • <u>Number of grades</u> -The capacity to segregate up to three different grade categories simultaneously.
14. Dynalyse AB Precigrader MSR Grading Machine	<ul style="list-style-type: none"> • <u>Temperature</u> - The equipment shall be operating at temperature conditions between 5°C and 35°C • <u>Humidity</u> -The recommended environmental operating range for humidity is < 85% (non-condensing). No lower limit. • <u>Operational speed</u> -The maximum operation speed is 180 pieces per minute.(chain velocity from 0.2 to 1.3 m/s) • <u>Lumber thickness</u> -The thickness range is from 0.79 inches to 4.13 inches. • <u>Lumber width</u> -The lumber width range is from 2.36 inches to 1.81 inches. • <u>Lumber length</u> -The minimum length of a piece of lumber that can be effectively graded is 4 feet. The maximum length is 24 feet. Lumber lengths may vary within 15 feet for one grading session. • <u>Lumber moisture content</u> - The moisture content of lumber shall be 19% and under.

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15. RE - III MSR Machine – previously known as Thumper - III	<ul style="list-style-type: none"> • Lumber sizes: <ul style="list-style-type: none"> ▪ Thickness up to 4 inches ▪ Width up to 12 inches ▪ Length up to 24 feet • Lumber Temperature range: <ul style="list-style-type: none"> ▪ Dry lumber: -50° C to 50° C. When dry lumber is processed while frozen, CUSUM samples must be warmed to between 10° C and 30° C before being bench tested. ▪ Green lumber: 0° C to 50° C • Maximum speed is 200 pieces per minute with a lug chain maximum speed of 350 feet per minute. Higher rates could be obtained by putting in two Thumper units evaluating every other board. • The use of accredited agency quality control and product certification procedures. 																									
16. A-Grader by Falcon Engineering Limited	<ul style="list-style-type: none"> • As per manufacturer specifications 																									
17. Metriguard Model 2350 Sonic Lumber Grader	<ul style="list-style-type: none"> • <u>Operating Temperature</u> - The equipment shall be operating at temperature conditions between -10°C and 45°C • <u>Humidity</u> - The recommended environmental operating range for humidity is <95% (non-condensing). No lower limit. • <u>Operational speed</u> -The maximum operation speed is 250 pieces per minute. • <u>Lumber thickness</u> - The thickness range is from 0.75 inch to 4.0 inches. • <u>Lumber width</u> - The lumber width range is from 2.5 inches to 11.4 inches. • <u>Lumber length</u> - The minimum length of a piece of lumber that can be effectively graded is four feet. The maximum length is twenty-four feet. • <u>Lumber temperature</u> – <ul style="list-style-type: none"> ○ MC < 20 % : -20°C to 50°C ○ MC ≥ 20% : 0°C to 50°C. 																									
18. Calibre Equipment - Ecooustic Grader	<ul style="list-style-type: none"> • <u>Operational speed</u> -The maximum operation speed is 240 pieces per minute. • <u>Lumber thickness</u> - The maximum thickness is 12 inches. • <u>Lumber width</u> - The maximum lumber width is 14 inches. • <u>Lumber length</u> - The maximum length of a piece of lumber that can be effectively graded is 28 feet. • <u>Lumber temperature</u> – <ul style="list-style-type: none"> ○ MC < 20 % : -20°C to 50°C ○ MC ≥ 20 % : 0°C to 50°C. 																									
19. Brookhuis Micro Electronics – Timber Grader mtg	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;"></th> <th style="width: 35%; text-align: center;"><i>With Internal Stress Wave Activator*</i></th> <th style="width: 35%; text-align: center;"><i>With External Stress Wave Activator*</i></th> </tr> </thead> <tbody> <tr> <td><u>Maximum operating speed:</u></td> <td style="text-align: center;">30 boards per minute</td> <td style="text-align: center;">30 boards per minute</td> </tr> <tr> <td><u>Width:</u></td> <td style="text-align: center;">2 to 10 inches</td> <td style="text-align: center;">2 to 15 inches</td> </tr> <tr> <td><u>Thickness:</u></td> <td style="text-align: center;">0.6 to 4.5 inches</td> <td style="text-align: center;">0.6 to 12 inches</td> </tr> <tr> <td><u>Length:</u></td> <td style="text-align: center;">1.6 to 26.2 feet</td> <td style="text-align: center;">1.6 to 65 feet</td> </tr> <tr> <td><u>Machine temperature:</u></td> <td style="text-align: center;">-10°C to 50°C</td> <td style="text-align: center;">-10°C to 50°C</td> </tr> <tr> <td><u>Lumber temperature:</u></td> <td style="text-align: center;">MC < 20%: 0°C to 50°C MC ≥ 20%: 0°C to 50°C</td> <td style="text-align: center;">MC < 20%: 0°C to 50°C MC ≥ 20%: 0°C to 50°C</td> </tr> <tr> <td><u>*Note:</u></td> <td colspan="2" style="text-align: center;">Not intended for lumber treated by a fire retardant. Not intended for finger joined lumber.</td> </tr> </tbody> </table>			<i>With Internal Stress Wave Activator*</i>	<i>With External Stress Wave Activator*</i>	<u>Maximum operating speed:</u>	30 boards per minute	30 boards per minute	<u>Width:</u>	2 to 10 inches	2 to 15 inches	<u>Thickness:</u>	0.6 to 4.5 inches	0.6 to 12 inches	<u>Length:</u>	1.6 to 26.2 feet	1.6 to 65 feet	<u>Machine temperature:</u>	-10°C to 50°C	-10°C to 50°C	<u>Lumber temperature:</u>	MC < 20%: 0°C to 50°C MC ≥ 20%: 0°C to 50°C	MC < 20%: 0°C to 50°C MC ≥ 20%: 0°C to 50°C	<u>*Note:</u>	Not intended for lumber treated by a fire retardant. Not intended for finger joined lumber.	
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20. Brookhuis Micro Electronics – mtgBATCH	<p><u>Maximum operating speed:</u> 30 boards per minute</p> <p><u>Width:</u> 2 to 10 inches</p> <p><u>Thickness:</u> 0.6 to 4.5 inches</p> <p><u>Length:</u> 1.6 to 26.2 feet</p> <p><u>Machine temperature:</u> -10°C to 50°C</p> <p><u>Lumber temperature:</u> MC < 20%: 0°C to 50°C MC ≥ 20%: 0°C to 50°C</p> <p><u>Note:</u> Not intended for lumber treated by a fire retardant. Not intended for finger joined lumber.</p>
21. Brookhuis Micro Electronics – mtgESCAN	<p><u>Maximum operating speed:</u> 180 boards per minute</p> <p><u>Width:</u> 2 to 10 inches</p> <p><u>Thickness:</u> 0.6 to 4.5 inches</p> <p><u>Length:</u> 1.6 to 26.2 feet</p> <p><u>Machine temperature:</u> -10°C to 50°C</p> <p><u>Lumber temperature:</u> MC < 20%: 0°C to 50°C MC ≥ 20%: 0°C to 50°C</p> <p><u>Notes:</u> Not intended for lumber treated by a fire retardant. Not intended for finger joined lumber.</p>
22. SmartMill BD Inc. – MLL – MSR Lug Loader previously known as the VAB Machines – MLL – MSR Lug Loader	<p><u>Maximum operating speed:</u> 6 to 12 feet → 200 boards per minute 14 to 16 feet → 140 boards per minute</p> <p><u>Width:</u> 2.5 to 5.5 inches</p> <p><u>Thickness:</u> 1.5 inches</p> <p><u>Length:</u> 6 to 16 feet</p> <p><u>Lumber moisture content:</u> 10% to 25% MC</p> <p><u>Machine temperature:</u> -10°C to 40°C ¹</p> <p><u>Lumber temperature:</u> -30°C to 40°C</p> <p><u>MSR Grades:</u> 2x3 and 2x4 → 1200Fb-1.2E to 3000Fb-2.4E 2x6 → 1200Fb-1.2E to 2400Fb-2.0E ²</p> <p><u>Notes:</u> ¹ Manufacturer recommends use of heated compressed air for operation under 0°C. ² Additional testing will be required for 2x6 MSR grades higher than 2400Fb-2.0E.</p>

Because machine approval applications are submitted by CLSAB Accredited Agencies - CLSAB does not have the addresses or contacts of the manufacturers of a specific machine.