Quality Assurance Pocket Guide for Mechanically Graded Lumber (MGL)

SPIB.ORG

COMMON PROOF LOADER SPANS

Width	Length (feet)	Span (inches)
2x4	All	73.5
2x6	10+	115.5
	8	73.5 or 90.42*
2x8	14+	152.25
	10,12	115.5
	8	73.5 or 90.42*
2x10	16+	185
	14	152.25
	10,12	115.5
	8	73.5 or 90.42*
2x12	16+	185
	14	152.25
	10,12	115.5

*May not be available on all proof loaders.

- Ensure that the span being used for the width and length you are testing matches the proof loader's data recording system**.**
- Proof loader aluminum bar checks must be done **at least once per production day**. Laser tests (if applicable) and TED, Ring, Rig, or other load tests must be done **at least once every 7 days**.

NORMAL CUSUM SAMPLING
One test per 5-hour production period (excluding downtime) of the MSR/MEL grade(s) and width being run.

INTENSIVE SAMPLING
Required **after qualification** of MSR/MEL grades **or** when **qualified settings** are reduced (*see SPIB MGL Procedures*)
Requires one 5-pc sample per 2-hour production period (excluding downtime).
Completed once **12 samples** have been taken at the 2-hour interval

OUT OF CONTROL (OOC) SITUATIONS
Two pieces fail MOR in one 5-pc sample, or two pieces fail MOE in one 5-pc sample
One piece fails MOR in 3 consecutive 5-pc samples for an MSR/MEL grade/width combination. Also applies to UTS for MEL.
The CUSUM value is greater than Y (see CUSUM Constants)
When the process is OOC, **contact your Quality Supervisor and follow prompts given in the SPIB MGL record keeping system**

SPIB MGL Test Requirements	
Test Type	**Requirements**
25-piece Quarterly Test	**Average:** Grade E - .04 **Min E Failures:** 2 **MOR Failures:** 2 **UTS Failures (MEL):** 2
53-piece New Grade Qualification	**Average:** Grade E - .04 **Min E Failures:** 1 **MOR Failures:** 1 **UTS Failures (MEL):** 1
78-piece New Grade Qualification	**Average:** Grade E - .04 **Min E Failures:** 2 **MOR Failures:** 2 **UTS Failures (MEL):** 2

CUSUM Constants					
E	W (Min. E)		X	Y	Z
	MSR	MEL			
1.5	123	113	1450	186	402
1.6	131	120	1550	211	428
1.7	139	128	1650	236	455
1.8	148	135	1750	262	483
1.9	156	143	1850	288	511
2.0	164	150	1950	316	542
2.1	172	158	2050	344	574
2.2	180	165	2150	372	606
2.3	189	173	2250	400	638

For information specific to MEL ("M-Grades"), contact your SPIB Quality Supervisor