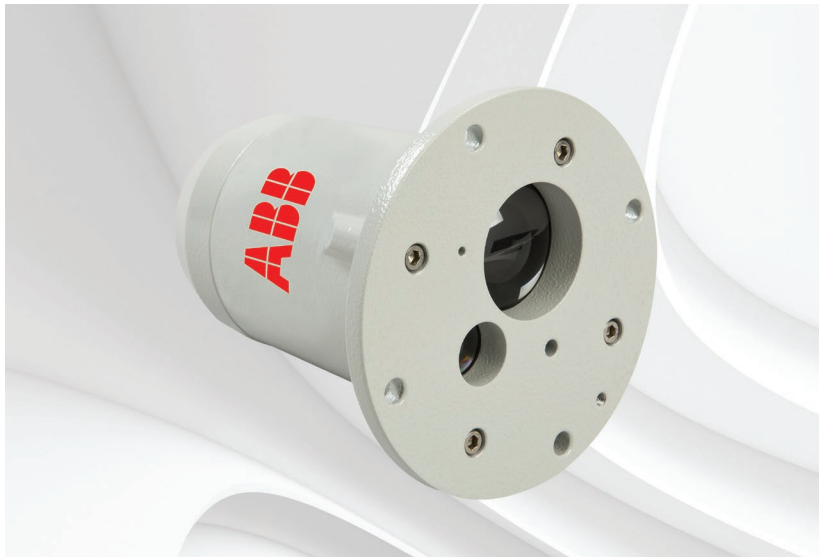


Sawmill wood chip silo



EACOM Timber Corporation uses LM80 to obtain a reliable level measurement in their wood chip silo.

Measurement made easy

01

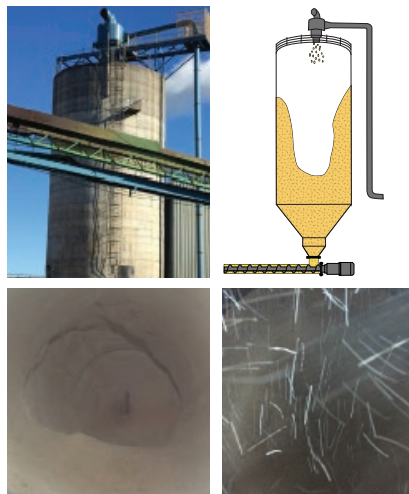
01 LM80

02 Wood chip process in silos

Introduction

EACOM Timber Corporation is a major Eastern Canadian wood products company. EACOM currently operates seven saw-mills, a remanufacturing facility and an engineered I-joists plant for more than 1150 employees.

The Elk Lake sawmill is located in Ontario (560 km [348 miles] northwest of Toronto) and operated since 1968 by producing dimension SPF lumber.



02

Challenge

As an integral part of the operations, wood chips are blown via cyclone into the top of a 60 feet (18 m) high and a 30 feet (9 m) wide storage silo. During filling, wood fibers are blowing around. Also, the wood chips create significant buildup on the silo walls. At the silo bottom is a screw conveyor, which delivers the wood chips to the process as required (see pictures 02).

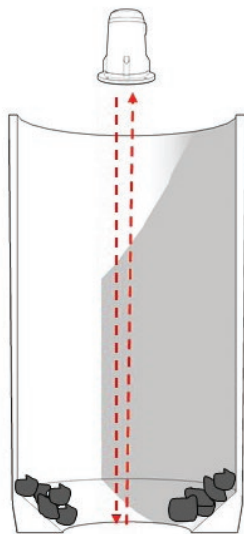
For the operator it is important to know the wood chip level continuously. An ultrasonic device was first tried, but it lost the signal too often. A radar gauge was then used, but the device setup was intensive and since the buildup accumulate on the walls frequently changed, the setup had to be redone often. Repeatedly reconfiguring the radar caused expensive maintenance.

ABB Solution: LM80

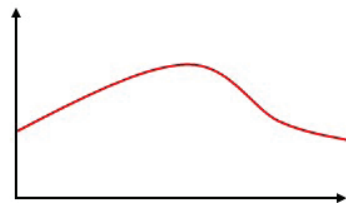
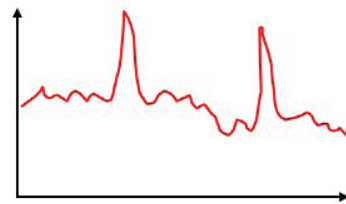
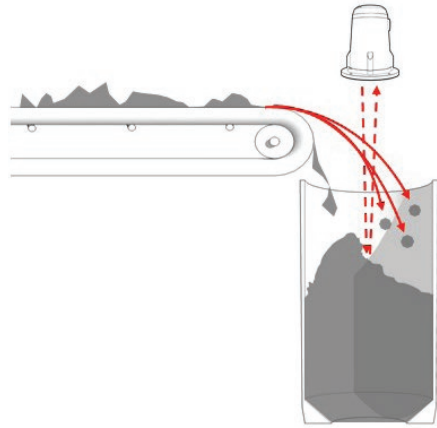
Right out of the box – with heavy dust mode activated the LM80 found the wood chip level immediately, with no interference from the blowing fibers. Due to the narrow beam divergence, the buildup on the walls was not an issue, as the laser was aimed directly to the center of the silo, avoiding any buildup.

Furthermore, the LM80 uses advanced software functions, which allow the laser to measure the level without losing the signal, even in filling, emptying and harsh conditions. Since installation, the LM80 has been accurately reading the silo chip level without any need for adjustment or maintenance. Every 0.25 seconds, the laser sends its position to the PLC over a distance of 21 meters, and as soon as the speed varies, thus after an elapsed time of 0.5 seconds, the bar screen is shut down, thus limiting the damage.

- ① Unaffected by deposits on silo sides
- ② No lost signal during filling, because of transient signal rejection function of the ABB laser device



- ① Not affected by build-up on vessel walls



- ② Advanced signal processing

Conclusion

EACOM Timber Corporation was so impressed that they wanted to purchase the demo unit 'on the spot' and just leave it in place. The offered solution was to leave the demo in place and order a new LM80 from the plant in Québec City. As a result of the fast shipping reaction time (maximum 48 h to ship from the plant) the customer received his own LM80 within one week.