



NIBA—The Belting Association  
6737 W. Washington St. #1300  
Milwaukee, WI 53214  
Ph: 414-389-8606  
www.niba.org

# Technical Article

Technical Article Content Pulled from the NIBA Belt Line Newsletter

## Conveyor Belt – New MSHA standard\*

*Contributed by Mitesh Kadakia*

*Veyance Technologies Inc*

Beltline Reprint September 2009

On December 31, 2008, the U.S. Department of Labor's Mine Safety and Health Administration (MSHA) passed a new regulation for conveyor belts used in a coal mine. The new regulation (30 CFR Parts 14 and 75) requires higher flame resistance than the current regulation (30 CFR Part 18). Per MSHA, the new ruling allows the miners until December 31 2009, to place in service the underground coal mines conveyor parts accepted under existing Part 18.

**BELT testing:** The Belt Evaluation Laboratory Test (BELT) is a laboratory scale flame resistance test designed to evaluate the flame resistance of conveyor belt. The BELT is described under the technical requirements of 30CFR§14.

The article below shows the difference between 30 CFR parts 18 vs. 30 CFR part 14/75 test standards and how it affects the belt manufacturers, the distributors and the end users.

### **Test sample dimensions**

#### 30 CFR Part 18 - MSHA 2G Test

Conveyor belting – four specimens each with 6" long x ½" wide x belt thickness – two in warp (length) direction and two in weft (width) direction.

#### 30 CFR Part 14/75 – MSHA B.E.L.T. Test

Conveyor belting – three specimens each with 60 ±1/4 inches in length direction by 9±1/8 inches in width direction.

### **Testing criteria**

#### 30 CFR Part 18

The tests of the four specimens cut away from any sample shall not result in either duration of flame exceeding an average of one minute after removal of the applied flame or afterglow exceeding an average of three minutes duration.



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## 30 CFR Part 14/75

A belt formulation passes the BELT test if, in each case of three separate trials, there remains a portion of the sample, across its entire width, undamaged by fire after the gas burner is taken off after 5 minute time.

The ruling of new MSHA BELT standard has a very profound effect on belt manufacturers, distributors and the end users.

### **Here are the key points**

- The new BELT standard requires much higher flame resistance than the current MSHA standard (30 CFR part 18).
- The belts currently used in the coal mine that meet 30 CFR part 18 requirement are likely not to meet 30 CFR part 14/75 requirement.
- Belts installed after Dec 31, 2009 must meet 30 CFR part 14/75 requirement.
- MSHA website <http://www.msha.gov/REGS/FEDREG/FINAL/2008finl/E8-30639.pdf>. Page 30 discusses the cost impact.
- “Because the final rule will result in yearly costs of approximately \$51.5 million to the underground coal mining industry, relative to annual revenues of \$14.0 billion in 2007, the final rule is not a “significant energy action” because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy.”
- Due to the higher flame resistance requirement, the new BELT standard belt will cost significantly higher than the current standard (30CFR part 18) belt. The cost increase is due to the polymers in the compound required to meet the higher flame resistance.
- Splice material must meet the new BELT test standard. MSHA will provide list of approved splicing materials on their website.
- The largest obstacle to escape a mine fire is smoke. BELT standard does not address smoke density/toxicity. MSHA added a notation that they will fund research on smoke density/ toxicity.
- All slope belts at a coal mine would require new BELT test standard which includes fabric and steel cord belts.



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## Comments / Questions based on the new BELT standard

- The new BELT standard only applies to coal mining. It does not address any other types of underground mine for example – salt mines or limestone mines.
- It does not address any above ground conveyor belt application like surface belts at a mine site or belts at preparation site or power plants. It also does not address belts at grain facility which uses MSHA 30 CFR part 18 belts.
- RMA or another governing body might include the old fire resistance standard (30 CFR Part 18) as a requirement for flame resistance for above ground applications as well as non coal mines. Updates to follow.
- End users typically keep spares of their most critical systems. The spare belts meet 30 CFR part 18 requirement but likely will not meet 30 CFR part 14/75 requirement. The cost of spare belts in inventory could be in hundreds of thousands of dollars. It is not clear if the customer can use the belts after Dec 31, 2009, that are in the category “spares” and bought before the new ruling was made.

Some of the answers to the questions that were asked to MSHA are below.

## **Questions and Answers: MSHA’s Final Rule on Conveyor Belt, Fire Prevention and Detection, and Use of Air from the Belt Entry**

### Flame-Resistant Conveyor Belt- Part 14 and § 75.1108

Q. How is “placed in service” defined?

A. Placed in service means any belt installed in an underground coal mine, which has been used to transport coal.

Q. Does storing a new roll of Part 18 belt that has not been installed underground constitute placing the belt in service?

A. No. Storing a belt does not constitute placed in service.

Q. Can a Part 18 belt be removed from a mine, trimmed down, and then be reinstalled?

A. Yes. Mine operators may continue these practices if the belts have been placed in service in their mines prior to December 31, 2009.



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Q. Can Part 18 belts placed in service prior to December 31, 2009, be removed from one mine and reinstalled in another mine?

A. Yes, but only if it was placed in service prior to December 31, 2009, and the other mine is operated by the same company. The belt may not be marketed for use in other underground coal mining operations.

Q. Our slope belt is a unique product, and we purchased an extra roll of the belt to make emergency repairs if necessary. After December 31, 2009, can a Part 18 conveyor belt be spliced or repaired using Part 18 belt stored at the mine?

A. MSHA will make a determination on specific requests to make splices or repairs related to unique circumstances on a case-by-case basis.

Please refer to website for more clarification <http://www.msha.gov/REGS/COMPLIAN/Guides/BeltAir.pdf>

AND

Contact your local MSHA representative for clarification on any issues.

*\*This is the second article on this very important government ruling which effects belting used in underground applications.*