



NIBA—The Belting Association
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Technical Article

Technical Article Content Pulled from the NIBA Belt Line Newsletter

MSHA Conveyor Belt “Final Rule”

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On December 31, 2008, The U.S. Department of Labor’s Mine Safety and Health Administration (MSHA) published a final rule in the Federal Register that implemented the findings of a Technical Study Panel, pertaining to flame-resistant conveyor belt, fire prevention and detection, and use of air from the belt entry.

Richard E. Stickler, acting assistant secretary of labor for MSHA, stated, “This final rule calls for improved flame-resistant conveyor belts to better protect miners in underground coal mines...”

According to a Department of Labor news release, under the final rule, underground coal mine operators are required to place in service conveyor belts that are more flame resistant than those currently used, beginning one year after the effective date of the final rule (existing belts must be replaced within 10 years).

To assist the reader to better understand the existing standard, commonly referred to as the 2G flammability regulation, verses the new B.E.L.T. regulations, a portion of a technical presentation prepared by Geoff Normanton, VP Technology at Fenner Dunlop Americas is included.

The MSHA proposals for Conveyor belting

The use of fire retardant conveyor belting accelerated over 60 years ago following a number of serious fires in mining and surface applications. The most disastrous mining fire occurred at the Creswell colliery in the United Kingdom on September 26, 1950. At the time of the fire 232 persons were underground. There were 131 in the district of the fire, 51 of whom escaped and 80 perished. Investigations at the time showed that the cause of the fire was from torn belting jamming a delivery chute which was in contact with the moving belt. Frictional heat developed at this point initiating the fire.

Within days of the fire the NCB (National Coal Board) set up an investigation and research team under J.T. Barclay. The conclusions of this work were that two tests would be necessary to ensure that belts were fire retardant and should fulfill two main criteria:

1. The belt must not be capable of ignition by friction.
2. The belt must not propagate or intensify an external fire with which it may be brought into contact.

This, in turn, led to one of the first standards for conveyor belting: National Coal Board Specification P113/1954. This later became the very well known standard NCB 158. It also became the driver of standards worldwide including the US bureau of mines that, in July 1954, carried out a study under Mr. S. Pollack. This led to the introduction of a laboratory flame test known generally as Schedule 2G.



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In North America today, we find the conveyor belting standards under current proposed rule making to bring higher levels of resistance to propagation of fire by a secondary source. The new testing being proposed is known as the Belt Evaluation Laboratory Test (B.E.L.T.).

The aim is to reduce the belt entry fires in underground coal mines and prevent fatalities and injuries. From 1980 to 2007, there were 65 reportable belt entry fires. These resulted in over two dozen injuries and three deaths, the most recent being at Aracoma mine, No. 1, where two miners perished. According to the MSHA report, the fire occurred due to frictional heating when the Long wall conveyor belt became misaligned. The heating, in conjunction with other combustible materials, created the conveyor belting fire.

MSHA tests carried out after the fire on the two samples of conveyor belting involved concluded that both met the current requirements of the MSHA laboratory fire test standard Title 30 CFR 18.65 (Known generally still as 2G). They did not meet the proposed B.E.L.T. standard however, developed but not implemented by MSHA in the late 1980's.

The current proposed rule incorporates the B.E.L.T. in addition to other safety guidelines. It also requires further investigations into the effects of frictional heat, smoke, and toxicity. This was concluded after a one year study by a technical panel of experts drawn together under the Miner act. It is envisaged that by the end of 2009 all belting will have to be supplied to the new standard.

At the end of January 2009, in a public forum conducted by MSHA officials at the Mine Academy, a very liberal interpretation of the new law was provided. Like any law it is subject to interpretation by local, regional or national MSHA officials, lawmakers, and courts, so the information should be used as a general guideline and not be considered as representing any formal or official ruling.

As background information, Code of Federal Regulations Part 18 is the current 2G Flammability regulation. Code of Federal Regulations Part 14 refers to the new B.E.L.T. Flammability regulation.

The general information provided at the public forum was as follows:

- New belt manufactured to Part 18 specifications can be purchased this year with the purpose of going onto an existing system, but that belt must be installed this year.
- Used belt can be owned by a company and moved into and out of service within any of the parent company's properties until December 2018.
- Part 18 belt can be stored outside the mine property so long as it is purchased in 2009 and for an existing system.
- All Part 18 belt must be off conveyors by December 2018.



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- Part 18 belt cannot be marketed, given, sold, or traded to other coal mines outside the parent company after 2009 (at least for mining use).
- New belt manufactured to Part 18 specifications cannot be installed on NEW conveyor applications after 2009.

What does all of this mean to NIBA members? If you don't sell conveyor belting into the coal mining market or carry an inventory of belt to support that business, the change doesn't apply to you.

However, if you do sell to the market and do carry a supporting inventory of 2G belting, it would be wise to pay attention to the changes, manage your inventory, and keep close contact with your local MSHA official.

Please note that the information above was presented at a public forum by MSHA officials, but has not been officially published by MSHA. The actual law does not specifically address each item as shown. Should you have questions, please contact your local MSHA representative.