



Safety Alert Brake Blocks LL in combination with sliding/fixed brakes.

November 2017

NSA: Dutch Inspectorate - ILT

ILT

Rail en Wegvervoer
Handhaving Rail

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On May 27, 2016, a freight train carrying twenty cars with LPG had a fixed break near Breda (NL). Research shows that due to the fixed/sliding brake in one car the temperature of the wheels and brake blocks has been such that all brake blocks of this car were burned and the tread of the wheels in question is deformed. That created a serious risk of derailment. This damage has occurred in a relatively short period of time. Respondents report fire hazards to the wheels of the car in question, probably within six kilometers after the fixed brake was formed. In addition, the car is not derailed and no damage has been caused outside the destructive damage to the wheels and brake pads. The last hotbox measuring point is about twenty kilometers from the point where the train has come to a halt. This last measurement has not measured a sliding/fixed brake.



Despite extensive research by ProRail, Captrain Nederland BV and ILT, the cause of the sliding/fixed brake has not become clear. Research shows that the brake in question was fitted with composite brake blocks, type LL. This specific type of composite brake blocks are European approved and replace since 2008 the cast iron



brake blocks. In cast iron brake blocks, the heat generated can be absorbed by the wheel and the cast iron brake block in case of inhibition. Composite brake blocks do not conduct the heat, which means that all heat must be absorbed by the wheel. In the Netherlands we are not familiar with earlier similar incidents. However in September 2017 a similar incident occurred in the south of The Netherlands.

Since 1995, composite brake blocks have been applied. The brake pads type LL have been developed because they can replace one to one cast iron brake pads. Previously, that was not possible. The phenomena as noted on 27 May 2016 are not known to other types of composite brake blocks, type K, as far as ILT is known. The railway company and ProRail have taken measures to prevent repetition.

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This incident was reported to EU AR by ILT in February 2017. EU AR answers in September 2017 that this incident was caused by a mistake of the relevant engineer and that the regulations have sufficient measures to limit the consequences of this error.



Composite brake blocks on fire (sept 2017)

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ILT does not share this opinion. ILT points out that it is not clear that in this case a human error has led to the sliding/fixed brake. Nevertheless, if this were the case then a human error should not have such a big effect. Namely, within a short period of time, the temperature can rise so fast that the tread of the wheel can be deformed so that the car can derail.

ILT has also asked the Ministry to use its influence on EC and EU AR to take measures to prevent the risk of derailment from solid brakes in combination with plastic LLL brake linings to rise so high.

@NSA's: Are there NSA's familiar with incidents like this. ILT likes to receive the reports of the incidents and/or investigations of the cause of these incidents.

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