



Vossloh Rail Services offers comprehensive rail services. Our portfolio covers the complete rail life cycle, starting from the production and transportation of long welded rails, to preventative maintenance and all the way to the reconditioning of used rails. We have a team of highly specialized employees that applies unique technologies and processes in order to maintain the value and the reliability of modern railways for our customers.

HSG High Speed Grinding
Preventative Rail Grinding in Sync
with your Timetable

High Speed Grinding

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HSG: Single train

HIGH SPEED GRINDING

High Speed Grinding (HSG) is a unique new rail grinding technology. Its most outstanding feature is its very high working speed of 80 km/h; this enables HSG to be deployed within regularly scheduled traffic without requiring any possession time or traffic disruptions.

PREVENTATIVE GRINDING

The most efficient and cost-effective way to combat rolling contact fatigue and other rail defects is to catch them early in their development. This is best done by removing the brittle fatigued surface layer of the rail, the breeding ground for rail defects such as head checks and squats. Periodic removal of this 0.1 mm thick layer using HSG is enough to prevent defects from developing. Grinding with HSG ensures high quality, excellent availability and exceptional safety of your tracks.

MAINTENANCE GRINDING

Rails already showing the first signs of rolling contact fatigue can also be maintained with HSG. Material removal rates of 0.3 mm or more can be achieved with several passes of the grinding machine. Minor rail defects will be eliminated completely and the rail will be brought back into a superior condition. The grinding can be done as a regular train run without the need for track closures or during scheduled possession time.



HSG grinding stones in stock



Control center of a HSG train



HSG: Twin train

OTHER APPLICATIONS

- Acoustic grinding: HSG reduces or entirely removes corrugation and slip waves, significantly decreasing the acoustically relevant rail roughness.
- Low friction coating removal: HSG efficiently removes lubricating films and low friction coatings caused by wet weather, fallen leaves or other pollution sources.

TECHNICAL DATA

- Working speed: 60-80 km/h
- Transfer speed: 120 km/h
- Shift range: 150 km (depending on application)
- Material removal rate: up to 0.1 mm per pass
- Coupling of two grinding units possible
- Rail roughness after grinding: < 10 µm
- Digital archive of process parameters
- Cross profile of rail is maintained and can be optimized
- Longitudinal profile of rail is optimized (corrugation reduction)
- Particle filters for diesel generators used in tunnel work.

ADVANTAGES

- Rail maintenance in between regular train traffic
- No removal of signaling or other track devices necessary
- Switches are passed at grinding speed (although they are not ground)
- Rail damage (overheating, dents) not possible
- High performance dust capture and filtration system (tunnel work is possible)
- No constraints regarding crossings, noise absorbers, etc.



Corrugation



Head Checks



"Prevention is better than cure"
- HIPPOKRATES, c. 400 BC