cideon engineering

FIRST CLASS ENGINEERING

Development of the rail milling train SFU 04 for London Underground

Requirements

Maschinenfabrik Liezen und Gießerei GmbH (MFL) was commissioned by Schweerbau GmbH & Co. KG in 2004 to develop and manufacture a rail milling train. In the framework of a development cooperation with the companies Gleisbaumechanik Brandenburg / H. GmbH (GBM, development and construction of the carrier vehicle for railway and milling components) and CE cideon engineering GmbH & Co. KG (construction of the vehicle body shell, built-in components and technical calculation), MFL acted as a provider of milling technology. The bogies were supplied by Eisenbahnlaufwerke Halle GmbH & Co. KG.

Tracks and vehicles are subject to increased dynamic stress due to rail defects. Typical consequences are vibrations in the vehicles and higher noise emissions. In the long term, rail defects lead to rail damage.

The purpose of using rail milling trains is:

- to reduce the maintenance costs for rail tracks and vehicles
- to increase the lifespan of rails and vehicles
- to improve driving comfort
- to ensure the operational safety of railway transport.

Implementation

CE cideon engineering GmbH & Co. KG participated in the following projects:

- Construction of vehicle body shell
- FEM calculation
- Restriction calculation
- Clearance calculation
- Bogie calculation
- Derailment safety certification

Customer benefits

- Fast project implementation
- Freeing up customer resources
- Utilising the know-how of CE cideon engineering GmbH & Co. KG

Technical Data

- Total weight of the rail milling train 120 t
- Vehicle length over the buffer 30,840 mm
- Width 2680 mm
- Height 2880 mm
- Smallest traversable curve radius under own power 48 m
- Smallest traversable curve radius of mills 55 m
- Maximum speed of transfer under own power 60 km/h
- Maximum milling speed 1.8 km/h
- Maximum slope 70 ‰ Cutting depth 0.3 – 1.0 mm

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