

Yellow Machines – Construction machines or uniques?



B66 UC MATISA

Task

Track-laying machines or construction vehicles are quite often not considered as “real” vehicles. In Germany e.g. they are called “Nebenfahrzeuge”. Nevertheless they fulfil a very important task contributing to the safeguarding of a reliable, eco-friendly and safe railway operation.

Running on tracks these machines have to comply - even though only partly - with the legal requirements, regulations and standards applicable for the railways. The specific requirements of the railway operations call for an overall know-how with respect to engineering as well as to the standards in relation with these ways of engagement.

Realisation

PROSE possesses the specific know-how and the experience necessary to develop efficient designs and to manage the verifications either by calculation or by test. These kinds of vehicles are only built in low quantities as single executions or in small series – unique or one of a kind. Therefore an efficient and effective process for the design and the homologation is crucial since the occurring one-of costs cannot be distributed over a large number of vehicles.

A big flexibility to adapt to the actual customer requirements and quick and flexible reactions to eventual modifications in the process e.g. modified or new requests from the authorities are indispensable. Even in complex situations we will not lose the final goal.

Customer Advantage

PROSE not only manages and runs the tasks necessary for the verification and engineering in an efficient and competent manner but is also pleased to support in editing the verification documents (both content and process) and coordinates the process with all parties involved. The customer gets his solution out of one hand. We are not only the accredited testing laboratory but also as general contractor organising these tests.

Overall there are fewer interfaces thus reducing risks as well as cycle time and finally costs during the phases of engineering and homologation. PROSE's vast experience with the construction of vehicles together with the competency of our customers lead to a commercially attractive development and commissioning of such machines.

Factsheet 9.00049

Detailed Information

Information on the Project

- Customer / Carrier : Various Manufacturers and operators of track-laying machines or construction machines
- Project schedule: Ongoing

Elaboration of the following results

- Engineering
- Verifications (by calculation or measurement)
- Homologations (process management, definition of requirements, execution of tests, assessments, expertises)

Project Responsibility

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Overhead-line construction vehicle, Plasser-Thurer

Customers

- Matisa
- Kirow
- Plasser-Thurer
- Rhätische Bahn
- SBB
- BLS
- Scheuchzer
- Sersa
- Windhoff

Types of vehicles

- Tamping machines
- Ballast ploughs
- Trains for track renewal
- Special wagons
- Track-bound Cranes
- Working platforms
- Fire and rescue trucks
- Grinding trains and machines
- Overhead-line construction vehicle

Performances

- Verifications by measurements:
 - Running dynamics
 - Running safety (in transfer and working mode)
 - stability against overturning
 - Braking distance
 - noise
 - vibrations
- developments:
 - feasibility
 - concepts
 - optimisation of running dynamics
 - remedial action regarding noise
 - remedial action regarding structures
- Verifications by calculation:
 - Running dynamics
 - Running safety (in transfer and working mode)
- Expertises:
 - Accident analysis
 - Expert opinions of tests
- Management the homologation process:
 - Agreement with the authorities on the methodology of verification
 - Process management, coordination of all parties involved



GRIZZLY 104, Scheuchzer