

Amberg Slab Track Plus

GRP 1000



The configuration consists of

- Premium hardware GRP 1000
- Application specific software Slab Track Plus
- Robust and guaranteed precision thanks to GRP Fidelity
- First-class application support

Technical data GRP 1000 for Amberg Slab Track Plus

System configuration		Positioning	
Gauge (mm)	1000, 1067, 1435, 1520/24, 1600, 1668/76	Leica total stations, - motorised, ATR - radio modem	TS30 TPS1200 TPS2000
TGS FX		Power supply	
Gauge - for nominal gauges	- 25 mm to + 65 mm	TGS FX – sensors	Leica GEB171, battery, rechargeable
Superelevation (Cant) - at 1435 mm gauge	+/- 260 mm (+/- 10°)	Battery life*)	> 8 h
Sensor performance		Panasonic control computer	Panasonic Li- ion battery, rechargeable
Track geometry measurement (Position, Gauge, Superelevation)		Battery life*)	> 4 h
Single measurement Final adjustment	4 s	Optional: Extended power supply for both, TGS FX and control computer - also suitable for TPS/GPS supply	ATPC 1000 PowerCube, lead acid battery, rechargeable
Tracking mode Rough adjustment	0.3 s	Battery life*)	> 10 h
Depending on conditions and surveying mode of total station type.		*) Depending on conditions.	
System accuracy		Environmental specifications	
Absolute system accuracy *)		Working temperature range	-10° to +50° C
Single measurement	+/- 1.0 mm	Humidity	< 80 %
Tracking modus	+/- 3.0 mm	- non-condensing	
Gauge	+/- 0.3 mm	System weight	
Superelevation	+/- 0.5 mm	GRP 1000 - ready to measure - incl. battery and computer (without ATPC 1000)	27 kg
Inner system accuracy	+/- 0.5 mm		
*) Depending on e.g. control point quality, atmospheric conditions, total station type, surveying mode and project conditions.			

System use and typical system performance

Slab Track applications	
Typical project applications	- High performance lines - Light rail - Metro - Tunnel refurbishment - Industrial tracks
Installation Slab Track	
Suitable for Slab Track systems	Track based construction methods, e.g. - Rheda 2000 - Iron-Horse method, ...
Production rate - depending on construction method and project conditions	> 400 m/d
Installation Slab Track – turnouts	
Suitable for turnout systems, incl. structural gauge enlargement (e.g. FAKOP®)	- BWG - Cogifer, ...
Documentation and acceptance	
Compatible with Slab Track systems	- Bögl System - J-Slab - Rheda 2000 - Iron-Horse method - Züblin Slab Track, ...
Measurement performance - precision track as-built per sleeper	> 100 m/h
Amberg Slab Track reference extract	
Ambergs' Slab Track solution has proven its high performance all over the world. Demanding projects have been successfully realised e.g. in Germany, Great Britain, Sweden, Spain, China, Taiwan, Singapore, Arab Emirates.	

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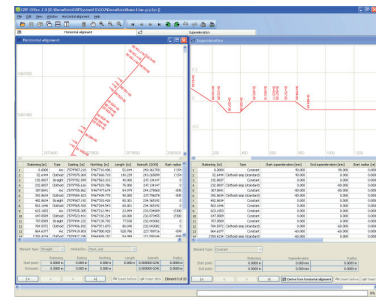
Amberg Rail 2.0

Amberg Slab Track

394.3 km/h? No problem! Amberg Slab Track is the integrated surveying solution, optimised for the typical requirements during construction, monitoring and maintenance of slab track projects.

Project data management

- Central database for input, visualisation and management of all track project data – including route data chronology, control points, and survey and construction progress.
- Supports all common geometry element types for track axis, gradients, station axis, superelevation range, gauge range including gauge enlargement at high-speed points (e.g. FAKOP®).
- Provision of all track project data for subsequent surveying tasks and evaluations.



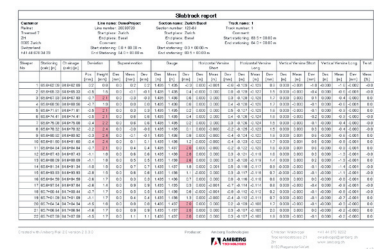
Surveying

- Determination of current track position during construction together with precision total station.
- Display of relative deviations (direction and height) to design in real-time - Data update frequency up to 3 times per second.
- Amberg Compensation Method - Real-time compensation of control point inaccuracies – resulting in improved track geometry quality already during construction.



Evaluation

- Automatic survey data processing and evaluation – including automatic linking of subsequently surveyed track sections.
- Complete surveyed data management including automatic incorporation of subsequent re-measurements.
- Comprehensive analysis and documentation of inner and outer track geometry quality.
- Interactive creation of correction lists supported with real-time simulations about the resulting final track position.



Station	Track	Inner	Outer	Superelevation	Radius	Length	Start	End
1000.000	1	1.000	1.000	0.000	1000.000	1000.000	1000.000	1000.000
1000.000	2	1.000	1.000	0.000	1000.000	1000.000	1000.000	1000.000
1000.000	3	1.000	1.000	0.000	1000.000	1000.000	1000.000	1000.000
1000.000	4	1.000	1.000	0.000	1000.000	1000.000	1000.000	1000.000
1000.000	5	1.000	1.000	0.000	1000.000	1000.000	1000.000	1000.000
1000.000	6	1.000	1.000	0.000	1000.000	1000.000	1000.000	1000.000
1000.000	7	1.000	1.000	0.000	1000.000	1000.000	1000.000	1000.000
1000.000	8	1.000	1.000	0.000	1000.000	1000.000	1000.000	1000.000
1000.000	9	1.000	1.000	0.000	1000.000	1000.000	1000.000	1000.000
1000.000	10	1.000	1.000	0.000	1000.000	1000.000	1000.000	1000.000

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