

Amberg Tamping GRP 3000



The configuration consists of

- Premium hardware GRP 3000
- Application specific software Tamping Plus
- Robust and guaranteed precision thanks to GRP Fidelity
- First-class application support

Technical data GRP 3000

| System configuration | | Cont. system accuracy | |
|--|--|------------------------------|------------------------------------|
| Gauge (mm) | 1000, 1067, 1435, 1520/24, 1600, 1668/76 | Gauge | +/- 0.3 mm |
| Control point measuring device | Amberg Profiler I10 FX | Superelevation | |
| TGS FX | | - stop&go mode | +/- 0.5 mm |
| Gauge | - 25 mm to + 65 mm | - kinematic mode | +/- 1.0 mm |
| Superelevation (Cant) | +/- 260 mm (+/- 10°) | Control point accuracy | +/- 3 mm |
| Profiler I10 FX | | - relative to track axis | |
| Control point distance | < 15 m | - at a distance of 5 m | |
| Sensor performance | | Positioning | |
| Track geometry measurement (Position, Gauge, Superelevation) | | Leica total stations | TS15, TS30, TS50, MS50 |
| Measurement stop&go - duration | TPS: 5 s GPS: 1 s | - motorised, ATR | |
| Measurement kinematic - data frequency | TPS: 7 Hz GPS: 10 Hz | - radio modem | |
| System accuracy | | Leica GPS | GPS1200, GS10/14/15 |
| Determination of track position and height*) | | Power supply | |
| GRP with total station (TPS) | Pos./Height: +/- 1 mm +/- 5 mm | TGS FX – sensors | Leica GEB171, rechargeable > 8 h |
| - stop&go mode | | Battery life*) | |
| - kinematic mode | | Panasonic control computer | Li-Ion battery, rechargeable > 4 h |
| GRP with GPS | Position: +/- 20 mm Height: +/- 40 mm | Battery life*) | |
| - with reference station | | *) Depending on conditions. | |
| *) Typical project accuracy. Depending on e.g. atmospheric conditions, control point quality, positioning sensor and project conditions. | | Environmental specifications | |
| | | Working temperature range | -10° to +50° C |
| | | Humidity | < 80 % |
| | | - non-condensing | |
| System weight | | System weight | |
| | | GRP 3000 | 30 kg |
| | | - ready to measure | |
| | | - incl. battery and computer | |

System use and typical system performance

| Tamping applications | |
|---|---|
| Typical track work applications | - New construction - Rehabilitation - Renewal - Maintenance - Tamping only |
| System use | - Track - Turnout systems, incl. structural gauge enlargement (e.g. FAKOP®) |
| Typical project performance | |
| Track survey with total station | 800 – 1200 m/h |
| Track survey with GPS | 3000 m/h |
| - GPS receiver and reference station necessary | |
| Control point survey | 1500 – 2500 m/h |
| - track offset report | |
| - average control point interval 60 m | |
| Tamping data (lift and slue values) | |
| Tamping data preparation | < 10 min per 500 m |
| - correction data calculation incl. ramping | |
| Tamping data formats | Plasser WinALC, DosALC CGV5 Framafer BAO3 Matisa |
| - further formats on request | |
| System approval | |
| CE Conformity | EN 61326-1:2013 EN 61000-6-2:2005 EN 61000-6-4:2007/A1:2011 EN 60825-1:2014 EN 13848-4 Directives 2014/30/EU Directives 2014/35/EU Directives 2011/65/EU |
| GRP System FX approvals from | Network Rail / London Underground (UK), Deutsche Bahn (DE), SBB (CH), SNCF (FR), ÖBB (AT), RFI (IT), Adif (ES), ProRail (NL), Infrabel (BE) |
| Extract of references | |
| Amberg's railway surveying solutions have proven their high performance all over the world. Demanding projects have been successfully realised in e.g. Germany, Austria, Belgium, the Netherlands, Denmark, France, Italy, Spain, Greece, Turkey, Australia, United Kingdom, Saudi Arabia, UAE, Korea, USA, PR China. | |

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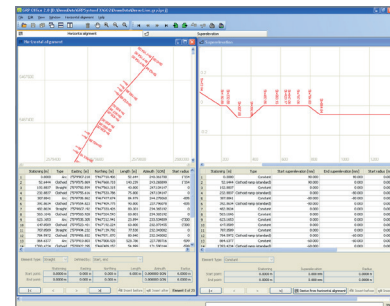
System performance and technical data

Amberg Tamping

The perfect track with Amberg Tamping. High-performance system solution for track design based or control point based tamping survey.

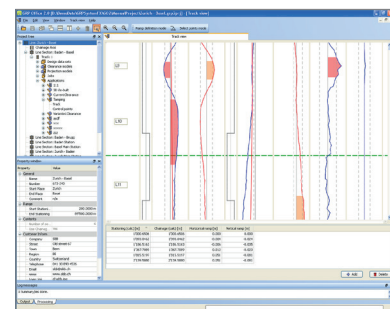
Project data management

- Central database for input, visualisation and management of all track project data including route data chronology, control points and survey and construction progress.
- User-defined project definition either as manual input of the (relative) track axis data from a track layout plan or as (absolute) coordinate referenced track axis data directly from the database or design software.
- Prior definition of geometrical tamping parameters (e.g. max. lift, max. slue per run).



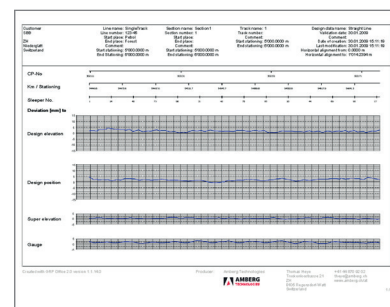
Surveying

- Automatic surveying of current track position including inner track geometry as basis for calculation of lift and slue values.
- All relevant track information available on track in real-time.
- Data logging in static or kinematic surveying mode, depending on project requirements – with surveying performance up to 3 km/h.
- Use of the Profiler II 10 FX for control point surveying after completion of track work.



Evaluation and reporting

- Automatic survey data processing and evaluation – including automatic linking of subsequently surveyed sections.
- User friendly tamping data editor for interactive graphical data analysis and processing.
- Direct export of correction data for Plasser, Framafier and Matisa tamping machine control computers.
- Comprehensive reports of inner and outer track geometry analyses, including control point record.



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