



Pipe Coating Solutions



TDC International

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Who we are

TDC International (TDCI) is a specialist pipeline coating provider with a proprietary application process (pau wrap®). Using glass-fibre reinforced plastics (GRP), we provide customized mechanical protection for steel pipes and field joints. We are one of the largest providers of GRP-pipe coating to the pipeline industry. Headquartered in Switzerland, our production facility in Germany has been operational since the early 1990's.

Over the years, we have built a wide customer base consisting of major European utilities, pipeline operators, construction companies, steel manufacturers and traders. We continue to expand our customer base, providing products and services in Europe and beyond.

Our know-how, craftsmanship, and proprietary methodologies differentiates us from our competitors and allows us to consistently provide customers with high quality manufacturing. We work closely with our customers to find the optimal product solution and understand the importance of assisting them in mitigating the risks of the pipeline installation process. We have adopted a stringent and thorough quality management system to ensure our manufacturing procedures and final products adhere to our customers' full satisfaction.

Product overview

GRP is an extremely resilient composite of thermosetting materials, primarily consisting of polyester resins and glass fibre. Our proprietary GRP coating technology can be applied to various alternative base-layers of corrosion protection coatings on pipes and welded field joints. The GRP coating protects the outer (anti-corrosion) layer from damages caused by mechanical forces during installation (e.g. shear-forces, abrasion, indentation), as well as during handling and transportation. The key characteristics of TDCI's GRP coating are:

- *The composite's hardness, protecting against mechanical damages;*
- *Flexibility of the material to tolerate axial and radial forces; and*
- *Strong structural grip of the GRP coating onto the pipes or welded field joints.*

TDCI's pau wrap® coating is one of the toughest external coating types available and can be applied over a variety of other types of base layer coatings, such as polyethylene (PE), polypropylene (PP), fusion bonded epoxy (FBE) or polyurethane (PU) coatings. pau wrap® is designed to provide an additional layer of protection against scratching, tearing, chemicals, sharp rocks, other abrasive conditions and harsh geological conditions.

The integrated pau wrap® system

TDCI offers an integrated GRP coating system consisting of factory-based coating for the pipes as well as field joint coating performed at the construction site. We believe, by providing the integrated pipe and field joint coating system, we help our customers enhance and increase integrity and quality of the overall coating on the entire pipeline. We have found through experience, that the consistent outer GRP coating covering both the pipes and the field joints strengthens the entire pipeline and reduces the number of potential weak spots. Integrity and quality of the coating are two of our primary focuses, which we ensure by providing the entire coating system designed by our highly-skilled technical engineering team and applied by our certified workmen.

TDCI's pau wrap® can be applied both in trenchless pipeline installation as well as in open trench construction. For each project, the design and formulation of the coating materials can be tailored towards specific project conditions and technical requirements.



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Applications



■ Trenchless

Applied across all trenchless installation methods, such as horizontal directional drilling (HDD), direct pipe or micro-tunnelling, the key focus of the GRP coating material is on its hardness, impact resistance and high shear-strength. Hence, GRP coating is naturally a good fit for trenchless technology.



■ Open Trench

GRP coating in open trench application is predominantly in space-constrained rock back-fill trenches, where the hardness as well as the scratch and indentation resistance of the GRP coating is acting as a protective shield against heavy or sharp back-fill. Its bending flexibility allows a very small bending radius to be achieved.

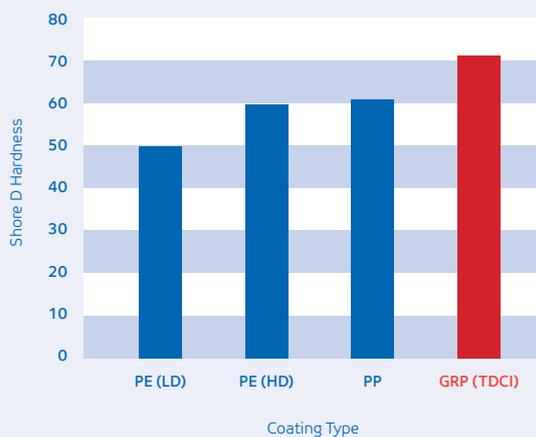


■ Field Joints

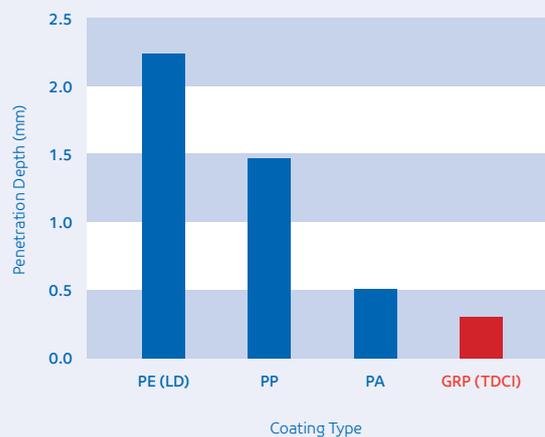
Often the weakest link in any pipeline installation are the field joints, our integrated system approach to coating enables a homogenous outer coating of consistently high mechanical resistance. The specifically developed materials form a strong bond with the GRP factory coating of the pipes. TDCI offers full field joint coating services from sand blasting, corrosion protection to application of GRP coating.

Technical specifications

Shore D Hardness



Gouge Test (50 kg)



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Technical specifications

Coating type	<ul style="list-style-type: none">■ Laminate
Ambient temperature	<ul style="list-style-type: none">■ -30 to 70°C (outdoor storage feasible up to 2 years)
Material composition	<ul style="list-style-type: none">■ Resin: Unsaturated polyester resin, glass fibre reinforced (GRP); self-hardening in exothermic reaction■ Glass-fibre: multi-layer laminate with variable design build-up to cater for different project and customer requirements
Typical performance specifications (trenchless)	<ul style="list-style-type: none">■ Thickness of laminate: ≥ 5.0 mm■ Barcol hardness: ≥ 40 HBa■ Elongation at breaking: ≥ 2.5 %■ Shear resistance GRP/PE: ≥ 100 N/cm² (acc. GW 340)■ Abrasion resistance: ≤ 1.0 mm depth / 70 kg single cut burr (acc. NACE TM 0215:2015)■ Impact resistance: ≥ 15 J/mm at +20°C and -5°C (acc. ISO 21 809-3) without holidays
Special features	<ul style="list-style-type: none">■ Pipe ends with pull off tapes to avoid grinding on construction site for FJC■ Coloured GRP coating optional upon request■ Laminated sliding skids (spacers) optional upon request and in accordance with project requirements



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