Tema Grating Tape (TGT)

Product Description

Tema Grating Tape (TGT) is a self-adhesive technical strip (1000 mm length) engineered to serve as a gasket, mechanical wear protection, and galvanic isolating barrier in structures where materials are exposed to mechanical loads, micromovements, and environmental exposure.

TGT acts as a dimensionally stable, fluorine-free, and abrasion-resistant technical layer designed to protect protective coatings and contact surfaces in loaded structures – without creeping or cold-flowing under mechanical clamping pressure (unlike soft thermoplastics such as pure PTFE).

Material and Performance Properties

The core of TGT consists of 0.8 mm Priplak® (rigid, flame-retardant polypropylene) laminated with 0.22 mm high-performance modified acrylic adhesive featuring a 50 µm polyester carrier (Nitto D9605). This provides the following properties:

- High mechanical strength, rigidity (flexural modulus 850 MPa), and dimensional stability without cold flow (creep)
- Excellent abrasion resistance against friction and micromovements
- High resistance to compressive and point loads
- Good chemical resistance to water, seawater, grease, alcohol, and most solvents
- 100% halogen- and fluorine-free (PFAS-free), free from heavy metals and SVHC substances (REACH)

Function

TGT combines material strength and permanent adhesion to deliver three primary functions:

1. **Mechanical protection:** Protects protective paint coatings against mechanical wear, chafing, and impact damage.
2. **Load-distributing gasket:** Acts as a dimensionally stable and vibration-damping interlayer between contact surfaces.
3. **Galvanic isolation:** Breaks electrical continuity between dissimilar metals (e.g., stainless/duplex steel against carbon steel).

Applications

Under grating and decking systems: TGT is applied directly onto the coated steel surface prior to installing grating. This establishes a durable gasket that prevents corrosion under grating by eliminating mechanical wear, pinholes, and tears in the coating system.

Between pipe clamps, pipes, and pipe supports: TGT is installed directly on the inside of pipe clamps against the pipe and between pipes and pipe supports to provide mechanical coating protection and prevent corrosion under pipe supports (CUPS) caused by thermal micromovements and vibration.

Between structural steel and superimposed elements: TGT is installed as a wear-resistant, dimensionally stable interlayer that protects surfaces against abrasion and maintains controlled, permanent separation between structural components.

Galvanic barrier: TGT is installed between metals of different electrochemical nobility to prevent galvanic corrosion.

Installation

TGT is supplied with a self-adhesive backing and is installed quickly and easily without special tools, welding, or chemical primers. The substrate must be clean, dry, and free from dust, oil, and grease. Remove the silicone release liner and press the strip firmly onto the substrate (recommended application pressure 10–15 N/cm² at ambient temperatures between +15 °C and +25 °C).

Technical Specifications and Temperature Data

Property / Parameter	Specification and Supporting Documentation
Construction and thickness	1.0 mm nominal: 0.8 mm rigid polypropylene core (Priplak®) laminated with 0.22 mm modified acrylic adhesive incl. 50 µm polyester carrier (Nitto D9605)
Country of origin	France (Priplak® polypropylene core), Belgium (Nitto D9605 acrylic adhesive)
Weight and colour	Approx. 1000 g/m² (excl. 85 g/m² silicone release liner), colour: White
Maximum service temperature (continuous)	**+70 °C** (Onset of softening/swelling of the polypropylene core is observed from approx. +70 °C; core melting point approx. +140 °C. Ref.: Priplak Classic TDS & TGT SDS Sec. 9.2)
Minimum service temperature (static load)	**-20 °C** under static load (Ref.: Nitto D9605 TDS). Note: Standard polypropylene becomes more brittle under impact/bending near or below 0 °C (Ref.: Priplak Classic TDS)
Short-term temperature resistance (adhesive)	Up to +185 °C in SAFT test (20×15 mm, 200 g, +0.5 °C/min. Ref.: Nitto D9605 TDS). The upper service limit of the finished product is governed by the core material (+70 °C)
Installation temperature	+15 °C to +25 °C (optimal), permissible installation range: -5 °C to +35 °C
Flexural modulus (core stiffness)	850 MPa (±5%), test method: ASTM D 790 (Ref.: Priplak Classic TDS)
Tensile strength and elongation at break (core)	> 20 N/mm² (MPa) tensile strength, > 100% elongation at break (Ref.: Priplak Classic TDS)
Peel adhesion (adhesive)	21.5 N/20 mm (2150 cN/20 mm) to steel, 12.0 N/20 mm to PP, test method: EN 1939 / ISO 29862 (Ref.: Nitto D9605 TDS)
Static shear strength (adhesive)	1 mm / 3 hours, test method: EN 1943 (Ref.: Nitto D9605 TDS)
Chemical resistance	Good resistance to water, seawater, grease, oils, alcohol, and most solvents (Ref.: Priplak Classic TDS)
Environmental and chemical compliance	100% halogen- and fluorine-free (PFAS-free), recyclable. Free from heavy metals and SVHC substances per REACH (EC 1907/2006) and RoHS

Property / Parameter	Specification and Supporting Documentation
Fire performance (core material)	Classified M1 per French standard NF P 92-507 (LNE Report No. F100099 - CEMATE/1 for 0.8 mm Priplak Classic Fire-Retardant). Tested per NF P 92-503 (electric burner), NF P 92-504 (flame spread), and NF P 92-505 (dripping test)
Supply format	Pre-cut strips (not rolls) in 1000 mm length. Standard widths: 50 mm, 100 mm, 150 mm, and 200 mm. Custom widths up to 600 mm available on request
Packaging	50 or 100 strips per box

Basis of Documentation and References

- Priplak SAS – Technical Data Sheet: Priplak Classic (2013/42) – Thermal and mechanical properties for 0.8 mm polypropylene core.
- LNE (Laboratoire National de Métrologie et d'Essais) – Report No. F100099 - CEMATE/1 – Fire classification M1 per NF P 92-507.
- Nitto Belgium NV – Technical Data Sheet: Double Coated Tapes D9605 (rev. 23 December 2025) – Adhesion, shear, and temperature data (SAFT).
- Tema Isotech AS – Safety Data Sheet (SDS): Tema Grating Tape (TGT) (Doc. No. 2026 03 04/HES/TGT/rev 03/26).

Contact Information

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