

Afera's 2025 edition of *Test Methods Manual* includes newest TM Time to Rupture and a revised Peel Adhesion

- The latest test methods to be developed or revised and added to the 150-page European tape industry publication are *Adhesive Tapes: Measurement of the Time to Rupture of Bonds with Double-Sided or Transfer Tapes under Static Load (Afera 4030)* and *Measurement of Peel Adhesion of Adhesive Tapes (ISO 29862)*
- Afera Standardisation Consultant Karsten Seitz tells us why these are important and particularly how *Time to Rupture* works and was created
- Further activity of Afera's Next-Level Test Methods Working Group includes Round Robin of testing of *Peel Adhesion* with doubled-sided tapes at 90° peel angle.



[Afera, The European Adhesive Tape Association](#), has released the 2025 edition of the *Afera Test Methods Manual*, most notably including the latest test method to be developed and finalised by Afera's Next-Level TMs Working Group (TM-WG): *Adhesive Tapes: Measurement of the Time to Rupture of Bonds with Double-Sided Transfer Tapes under Static Load (Afera 4030)*, or Time to Rupture.

The TM-WG has also included a newly revised version of ISO-harmonised TM *Measurement of Peel Adhesion of Adhesive Tapes (ISO 29862)*, or Peel Adhesion.

The contents of the *TMs Manual* have been developed, edited and provided as a resource for the European adhesive tape industry. The new, exclusively digital, 150-page edition includes 25 TMs. It is available free of charge to all Afera Members and at a cost of €150 to non-Members, who can access and purchase it online [here](#).

Why the Time-to-Rupture TM was developed

The Time-to-Rupture standard specifies a method for determining the time to rupture of a single lap joint, adhesively bonded with double-sided or transfer PSA tape, when exposed to a static load under specified conditions. This new test method complements the well-established static shear TMs for PSA tapes. It also serves as a counterpart to Afera 4029, which measures the shear characteristics of a similar test specimen under dynamic load.

Afera 4030 consists of two parts: The first is a testing protocol, which forms the core of the TM and specifies how to perform the measurements. The second, Supplement A, is more conceptual. It provides guidance on how systematic variations in the applied load can offer deeper insight into the time-dependent behaviour of PSA-bonded joints, due to the viscoelastic nature of their adhesives and/or carriers. Combining the results of Afera 4029 and 4030 may yield additional understanding of joints bonded with PSA tapes.

“In contrast to Afera 5012, which measures the performance of a single adhesive in contact with one adherend, Afera 4030 clearly focuses on adhesively bonded joints using double-sided or transfer tapes,” explained Afera Standardisation Consultant Karsten Seitz, who also leads Afera’s Next-Level TMs Working Group. “For these tapes, selecting the appropriate method may depend on the specific objective.”

Evaluating the tape’s performance within the joint as a whole—particularly in light of viscoelastic effects—can support the use of 4030. However, this approach is relatively more labour-intensive than using Afera 5012, which may be more suitable for quality control purposes.

How Time to Rupture works

The TM describes the determination of the time to rupture of a single lap joint, bonded with double sided or transfer PSA tapes, exposed to a constant shear load, which acts in parallel to the plane of the bond, after the bond has been prepared under specified conditions. The time to rupture of the single lap joint is measured by subjecting the joint of a rigid-to-rigid substrate combination to a constant shear force by applying weights to a test specimen and measuring the time until complete failure of the bond occurs, i.e. the joint ruptures and the weights fall.



How the Time-to-Rupture TM was developed

The concept for the TM was developed by Afera’s TM-WG. It builds on internal standards from several Member Companies and incorporates elements of ISO 15109, the international standard for determining the time to rupture of adhesives.

A major part of the development involved defining and agreeing on the most appropriate set of parameters for the measurements. The concept was then evaluated through an interlaboratory testing programme involving seven participating laboratories. Some of the findings were used to refine the method before it was officially released as Afera 4030.

An equally important aspect of the project was to provide not only a clear procedure for obtaining measurement values but guidance on how to interpret and apply the results, maximising the value of the TM. This guidance is included in a dedicated supplement to Afera 4030.

Revision of Peel Adhesion

A tool for quality assurance use, the peel test standard Afera 5001 has been revised by the TM-WG to align with the recently updated ISO standard 29862. A particular focal point was the 90° peel variant for double-sided tapes.



The TM-WG has initiated a Round Robin testing sequence based on this variant, using three double-sided tapes at a 90° peel angle. Tapes with significantly different constructions were selected to reflect the diversity of designs in the double-sided tape sector. Ten member companies will participate. As in a previous Round Robin, the main objective is to enable participants to compare their results with those of a relevant peer group. In addition, a full statistical analysis of the results is planned.

“Afera Test Methods provide a uniform standard for the definition of adhesive tape performance for both manufacturers and users,” explained Afera Technical

Committee Chairman Reinhard Storbeck, who is also director of R&D at tesa SE. “It is a key priority of the Afera TC to identify, develop and maintain new TMs for the benefit of the adhesive tape industry.”

The 2025 edition of the *Manual* contains the newly developed, internationally harmonised GTF ([Global Tape Forum](#)) TMs for the most important tests, which include some of those that are both Afera and ISO (International Organisation for Standardisation) and/or CEN (European Committee for Standardisation) harmonised. Most of the others are both Afera and CEN harmonised.

Next Global Tape Forum and Global Test Methods Committee Meetings

Time to Rupture and Peel Adhesion will be discussed at the next [Global Tape Forum and Global Test Methods Committee Meetings](#) which will take place in November 2026 in Tokyo, Japan. The TMs are available for adoption by the other GTF Members, which include the adhesive tapes trade associations of China, Taiwan, Japan and North America.

Cepi laboratory test method to assess the technical recyclability of fibre-based packaging

The new E.U. Packaging and Packaging Waste Regulation (PPWR) emphasises the recyclability of packaging materials, prompting the development of a test method by the European Confederation of the Paper Industry (Cepi) and a corresponding evaluation protocol by the 4evergreen alliance. [Afera contributed to the protocol by providing data and recommendations on the testing of adhesive tapes](#), particularly carton sealing tapes, which have now been incorporated into the protocol’s sample preparation guidelines.

Dynamic Shear TM

Afera developed and added the *TM Determination of Dynamic Shear Strength of Double-Sided PSA Tapes* to the 2024 edition of the *Test Methods Manual*.

More details can be found at www.afera.com/technical-centre/afera-test-methods.

Test method automation addressed at Afera European Tape Week 2025, 22-26 September

Lastly, Afera's upcoming flagship event, [European Tape Week](#), will feature dedicated presentations on adhesive tape testing as part of its [Technical Seminar programme](#). In *Session 2: New Perspectives* on Tuesday, 23 September, chaired by Christoph Scholten of Synthomer Deutschland GmbH, two expert-led talks will spotlight cutting-edge advancements in testing:

- 13.50 – 14.10 – *"Improve mechanical testing results with automation"* by Oskar Gnant, ZwickRoell GmbH & Co. KG (Germany)
- 14.10 – 14.30 – *"Full automation in the lab: Latest developments in mixing, formulation, testing and measuring peel adhesion"* by Carine Marcos, Chemspeed Technologies AG (Switzerland)

These sessions will explore how automation is reshaping accuracy, efficiency and innovation in adhesive tape test methods.

👉 To learn more and register, visit www.aferaeuropeantapeweek.com.