

PROGRAMME

MONDAY, 8 APRIL 2019

12.45 – 13.45 **Buffet Lunch**

13.45 **Opening** by Reinhard Storbeck (Afera Technical Committee Chairman)
13.50 **Welcome** word from Afera's President **Evert Smit**

SESSION 1 **14.00 – 15.20 WHY TAPES?**
Session Chairman: **Reinhard Storbeck** – tesa SE

14.00 – 14.40 **Made to stick – a general introduction to tapes**
Evert Smit – Lohmann GmbH & Co. KG

Business books have adopted terms like "stickiness", "bonding" and "made to stick", although they don't discuss applications in bonding technology. What magic is Pressure Sensitive Adhesive Technology creating in our everyday life? Why are surfaces made to stick and why do some bonds not survive? A key to making an idea sticky is to tell it as a story. This presentation tells the story of "adhesive tapes", their construction and their applications.

14.40 – 15.20 **Introduction pressure sensitive adhesive tape technology**
Uwe Michel – tesa SE

The cornerstones of tape performance are peel, creep and tack. These features are relevant for many application-related properties. This presentation provides a survey of the most important relationships between physical performance and application properties. The lecture will align adhesive tape technology available with the demands of today and tomorrow's industrial processes.

15.20 – 15.40 **Break**

SESSION 2 **15.40 – 17.45 TAPES DECONSTRUCTED (first part)**
Session Chairman: **Reinhard Storbeck** – tesa

15.40 – 16.20 **The World of Acrylic PSA - Solvent Based and UV Hotmelt**
Anja Schneider - Henkel

tba

16.20 – 16.40 **Fundamental emulsion polymerisation for high performance water based pressure sensitive adhesives.**
Dr. Katja Greiner - Synthomer Deutschland GmbH

Water based acrylic adhesives are commonly used in pressure sensitive adhesives in tape and label applications. Emulsion polymerisation is versatile when it comes to designing adhesives with the right performance for a broad variety of applications, ranging from very soft and sticky adhesives to adhesives with a very high shear strength. This presentation covers the introduction to fundamental emulsion polymerisation, and how the adhesive performance can be influenced by the right choice of monomers, emulsifiers, functional comonomers as well as formulation into a coater ready adhesive using wetting agents, defoamers and crosslinkers or thickeners to obtain good performance in the application and good runnability on the coater line.

16.40 – 17.25 **Panel discussion with speakers Session 1 and first part Session 2**

18.30 **Welcome Cocktail**

20.00 **Free Evening**

TUESDAY, 9 APRIL 2019

SESSION 2 09.00 – 13.00 TAPES DECONSTRUCTED (second part)

Session Chairman: **Renate Roeterd** – Bostik

09.00 – 09.30 Chemistry of hotmelt PSA formulations

Jarno Weemers – Eastman Chemical Middelburg B.V.

An overview of the chemistry of several PSA formulations in which tackifying resins are used will be presented. This includes styrene block copolymers (SBCs), natural rubber and polyolefins. Tackifier resins discussed will include hydrocarbon resins and rosin resins, as well as their modifications. Tools to characterise these types of resins will be given, making it easier for formulators to choose the right resin for the right application. The interaction and compatibility of tackifying resins with several polymers will be discussed, focussing on block copolymers and their use in HMPSA formulations.

09.30 – 10.00 An introduction to Silicone-PSA's and Fluorosilicone Release Coatings

Alex Knott – The Dow Chemical Company

Silicones are best known in the self-adhesive tape market as release coatings, but there are also PSA's based on Silicone. These Silicone-PSA's are used for special applications where very specific performances are required. This presentation will provide an introduction to Silicone PSA's, including their chemistry, properties and some of the current applications where they are used. It will also cover the subject of Fluorosilicone release coatings which are critical for tape applications where easy release of a SiPSA is needed.

10.00 – 10.20 Viscoelastic backings for high performance tapes

Jan Wieneke - Coroplast

(Nearly) unknown champions of our everyday life: Every car, ship, airplane, lots of machinery, even buildings and your mobile devices use PSA with viscoelastic backings. In this overview you will learn what these tapes can do and why they will help in your demanding applications.

10.20 – 10.45 Polyethylene foams as backing material for technical tapes

Lukas Berger – Sekisui Alveo

Polymeric foams and polyolefin foams in particular are widely used in the industry to produce a large range of tapes for industrial, household, electronic, medical and construction applications.

This presentation will give a short outline on the production process of polyolefin foams, followed by an overview on physical and chemical properties of such foams. Depending on the density and the composition, the properties can be tailored to meet the requirements of the application, so the foam is suitable for e.g. a sealing tape, a fixation tape, a high performance mounting tape or an ECG electrode.

Particularities which need to be taken into account when producing a foam tape will also be considered.

10.45 – 11.15 Break

11.15 – 11.35 Polymeric films for technical tape applications

Dr. Ingo Neubert – tesa SE

Polymeric films and paper webs are the most important backing materials for self-adhesive tapes.

The backing material of the tape determines its mechanical properties (like conformability, stiffness and tensile strength) as well as its application-related properties (like thermal stability, UV stabilization and optical properties). Choosing the best backing material is therefore crucial for the final tape application. This presentation will provide an overview of different polymeric films and paper webs regarding their specific properties and some typical applications. It will also point out features of manufacturing and processing of the backing materials. Additionally, some aspects of cloth and non-woven backing materials will be discussed.

11.35 – 11.55

It's not tape without a substrate - or how to make paper

Michael Raidt – Neenah Gessner GmbH

Today's tapes are a marriage of complex components. The substrate, in this case paper, contributes significantly to the physical properties of the finished tape. There is significant engineering required to generate the desired properties and still provide an economical product. This presentation will outline the steps and processes required to go from timber to ready-for-adhesive tape papers and includes pulping, papermaking and polymer post treatments.

11.55 – 12.15

Chemistry of release coatings

Jürgen Pomorin – Evonik Nutrition & Care GmbH

Most self-adhesive products like labels and tapes require a release coating to protect the adhesive layer prior to its use. The release coating usually comes on a carrier called the release liner. Self-adhesive tapes may have a release layer on the backside. The release performance contributes substantially to the conversion properties of a self-adhesive product and therefore require attention. Today, various release systems are available, dominated by silicone types. The aim of this paper is to explain the main differences between common release systems with a view on chemistry and the required coating and curing technology.

12.15 – 13.00

Panel discussion with speakers second part Session 2

13.00 – 14.00

Lunch

SESSION 2

14.00 – 14.25 TAPES DECONSTRUCTED (third part)

Session Chairman: **Gert-Jan van Ruler** – DRT

14.00 – 14.25

Release coatings applied

Michael Ortner – Mondi

In addition to the many release chemistries available, there are also several coating methods, coating thicknesses and a plethora of substrates from which a selection can be made. In this paper, you will be given an insight into why one combination of substrate and silicone better fits a specific application than another. Considerations such as processing speed, temperature and environmental conditions will be taken into account.

SESSION 3

14.25 – 16.30 TAPE PRODUCTION

Session Chairman: **Gert-Jan van Ruler** – DRT

14.25 – 14.45

Co-rotating twin screw extruder (ZSK) for continuous production of adhesives and sealants

Markus Fiedler – Coperion GmbH

Explanation of the modular and highly flexible Setup and Working principle of a closely

intermeshing co-rotating twin screw extruder (ZSK) in general.

Technical features to overcome borderlines such as low bulk density fillers, bale material, remaining air content in the adhesive as well as necessary residence time and cooling capability for reactive systems will be introduced.

A continuous way of production of adhesives and sealants on a co-rotating twin screw extruder (ZSK) will be pointed out by examples.

Prospects of our Test-Lab in Stuttgart for feasibility studies and scale up trials to attend and support our customers on their way from batch process to continuous process.

14.45 – 15.25

Coating and drying of substrates

Klaus Peter Crone - Coatema Coating Machinery GmbH

The huge variety of different coating applications ranging from highly uniform optical films to mechanically rugged protection layers require coating thicknesses between some 10 nm up to some mm. Moreover the rheological parameters of the coating liquids may vary from high viscous pastes to fluids more fluent than water. No single coating technique is fit to cover this full range of applications.

Different coating techniques will be presented giving a short explanation of their function and summarizing their respective pros and cons.

Especially slot die coating will be emphasized as slot dies frequently replace other techniques because of their unique advantages to be a closed and premetered system. Most recent developments in intermittent coating (start-stop-coating) will be shown.

In almost any case the coating liquid has to be cured or dried after coating. Whilst curing (e.g. by UV if applicable) is usually no big issue, drying may be rather complicated and expensive. Different drying techniques are presented and their applicability is discussed.

15.25 – 15.50

Insight tape conversion technology

Peter Harendt, Lohmann GmbH & Co.KG

For the final users, one of the key advantages of tapes is the ability to do pre-converting in customized designs. Like slitting large rolls into smaller ones fitting the applicators, cross-winded spools to improve efficiency, and customer-specific die-cuts that fit the final design. With this, the highest level of qualified application process is assured by pre-defining the bonding areas in thickness, width and design. An overview of converting technologies, per tape, will be given: slitting, laminating, spooling, laminating and different die-cutting technologies.

15.50 – 16.30

Panel discussion with speakers third part Session 2 and Session 3

19.00

Conference Dinner

WEDNESDAY, 10 APRIL 2019

SESSION 4

09.00 – 12.15 TAPE USE & TESTING

Session Chairman: **Ian Grace** - Loparex

09.00 – 09.45

Modern surface treatment methods

Prof. Dr. Andreas Gross – Fraunhofer IFAM

This lecture gives an overview about surface treatment methods enlarging the adhesion of (pressure sensitive) adhesives on several materials surfaces. Especially plasma treatments show an excellent influence. Therefore their different modes of functioning will be explained using examples. Economical and ecological aspects will also be regarded as possible fields of application in the future.

09.45 – 10.15

Forget about your thumb: How to test a tape in a more reliable way

Marko Beitmann – Coroplast Fritz Müller GmbH & Co. KG

Characterisation of tape performances is much more difficult compared to measuring the length of a screw, e.g. several factors have a significant influence on the final properties of tapes. This session will cover the most important test methods, presenting globally harmonised GTF standards as well as tests that are used on a more international level like Afera, PSTC and JATMA. Dos and don'ts will be discussed and several real-life examples of tape tests from different industries will be presented. After this lesson, you should have a better understanding of the potentials and the limits of tape testing – and hopefully you will use your thumb less often.

10.15 – 10.45

Break

10.45 – 11.15

Keeping it together: Overview of regulatory affairs for tapes

Mark Macare - Manager of Public Affairs for FINAT, Manager of BREF Revision for Afera

The regulatory landscape for the tape industry is continuously evolving, and active involvement is of the utmost importance. The presentation will provide an overview of the most important regulatory developments for the tape industry and recommendations as to what the industry and companies individually can do to prepare for these.

11.15 – 11.45

World of tapes - 1001 applications

Michel Mies, tesa SE, Head of the Application Solution Center Europe – tesa SE

In this paper various tape and application trends in the Automotive OEM/OES, Electronics and General Industries Business in the European and Chinese market will be discussed. Customer intimacy, market intelligence and solutions are necessary success factors for the fast moving and dynamic environment of the Chinese market.

11.45 – 12.15

Panel discussion with speakers Session 4

12.15 – 12.20

Closing/Wrap-Up by Reinhard Storbeck

12.20 – 13.30

Lunch