Global Test Methods Committee (GTMC)

Meeting Minutes

Date: 24 April, 2024 **Time:** 09:00 – 12:00 **Venue:** Jeurong Hotel in Shanghai, China

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Present:

See Appendix A: Delegation Attendee List (Appendix A: Participant List GTMC Meetings 24 April, 2024)

Chairman:

Kiran Malhotra, PSTC Test Method Committee and GTMC

Secretary:

Hu Yang, Manager of Information Dept. of CATIA

Date of Next Meeting:

November 17(Tue)-19(Thu), 2026, Tokyo, hosted by JAMTA

Agenda

1. **Opening Remarks: Kiran Malhotra**
2. **Roster Attendance: Kiran Malhotra**
3. **Importance of harmonized test methods and role of GTF test methods compared to ISO:**
4. **ISO 29862 Revision: presented by Evert Smit Chair AFERA**
5. **Proposed Process for initiating and completing GTF test methods: Discussion led by Kiran Malhotra**
6. **Test Methods being developed for harmonization:**
   6.1 Dynamic Shear test by Evert Smit AFERA
   6.2 High Speed Unwind test by Kiran Malhotra PSTC
7. **Thoughts on measurement variability: Kiran Malhotra followed by discussion.**
8. **Open discussion on the path forward to promote and maintain GTF Test Methods**
9. **Concluding remarks: Kiran Malhotra**

1. Opening Remarks

Mr. Kiran Malhotra, PSTC Test Method Committee and GTMC Chair, opened the morning meeting by welcoming the group of international delegates. He introduced the basic information of GTMC and GTF.

2. Roster Attendance

Mr. Kiran Malhotra invited all the associations to introduce themselves. Mr. Michael Yang, the Secretary General of CATIA, made the first opening, followed by the President of Afera, Dr. Ever Smit. Then, Secretary General of JAMTA, Mr. Kensei Takahashi made the introduction, and Mr. Michel Merkx, the Past-President of PSTC, made his opening speech. The final introduction was by the Secretary General of Taiwan Regional Association of Adhesive Tape Manufacturers.

Mr. Michel Merkx reviewed the minutes from the GTF and GTMC pre-meeting which took place in Brussels in April 2023, and shared the points had been discussed in the meeting.

3. Importance of harmonized test methods and role of GTF test methods compared to ISO

Mr. Kiran Malhotra stated that countries and regions used different test methods as standards. These methods may be different from each other and therefore specifications and Quality Control standards for products may not be comparable across countries and regions. Therefore, there is a need to harmonize standards that facilitate common language for specifications and meet customer needs by using validated test methods. There are two options available for the tape industry to have globally recognized test methods. One is to use an ISO developed test method and the other is to use test methods developed by one trade organization and accepted by all other trade organizations. The Global Tape Test Method Committee has already established seven GTF test methods, three of which are ISO methods. Mr. Malhotra stated the list of the currently harmonized methods:

GTF 6001: Shear Adhesion at Failure Temperature of adhesive tapes.
GTF 6002: Thickness of adhesive tapes.
GTF 6003: Guideline for width and length of adhesive tapes.
GTF6004: ISO29862: Peel Adhesion of adhesive tapes.
GTF6005: ISO29864: Breaking Strength and Elongation of adhesive tapes.
GTF6006: ISO29863: Shear Adhesion of adhesive tapes.
GTF6007: Loop Tack of adhesive tapes.

An ISO standard is globally recognized, but the process to initiate and complete a standard test method is complicated, time consuming and expensive. All members of the GTMC Committee agreed that the GTF process should be easier and more applicable to the needs of the GTF members.

Mr. Michel Merkx also believed that having uniform standards is important especially for global customers.

4. ISO 29862 Revision

Dr. Evert Smit, President of AFERA presented the current status of the ISO 29862 revision and the ongoing timeline for the completion of the revision, which is end of the year 2024.

He presented the rationale and the proposed amendments of the revision to ISO 29862. The addition of 25mm as a standard width, the addition of the cutting device, the use of an alternate roll down method, the revision to the sample conditioning methodology, the elimination of certain cleaning solvents for health reasons.
The GTMC members agreed to these proposals.
GTF 6004 will need to be revised after ISO 29862 is finally revised at the end of 2024.
Mr. Kiran Malhotra questioned the "light pressure" requirement for the alternate roll down procedure as being vague. Dr. Smit presented data showing that the results obtained by using different light pressure rollers by various lab personnel were statistically insignificant and the adhesion results were governed by the final roll pressure.

ACTION: All the GTF associations should submit their feedback to this proposal to Dr. Evert Smit before the deadline 2024-6-10.

5. Proposed Process for initiating and completing GTF test methods

Mr. Kiran Malhotra presented the process for developing a new GTF standard. Any Trade Association may initiate a new standard that is relevant to their customers. This intention should be communicated to the GTF members. Testing should be conducted and statistical methodology should be used to validate the results. The data including the variability study used should be communicated to the other GTF members for comments. The GTF members have the option to make comments, propose changes and/or validate the test in their own labs. A cut off date for this process was proposed as six months. After this period a new GTF number can be given to the proposed standard.
All other associations agreed with his point of view.

6. Test Methods being developed for harmonization

• 6.1 Dynamic Shear test

Dr. Evert Smit presented the new Afera TM “Dynamic Shear”, including how and why it was developed and the results of two series of round robin testing.

This TM, which was a compromise of internal Afera member company methods and would be called Afera 4029. The TM is open for adoption. The 2024 TM Handbook has been completed and ready for download to all members. Non Afera members need to pay for the download / handbook.

• 6.2 High Speed Unwind test

Mr. Kiran Malhotra presented the topic on High Speed Unwind Adhesion of Pressure Sensitive Tapes, including the definition, significance, test specimen, equipment, test method and report.

Mr. Kensei Takahashi opened the discussion on the parameters of the machine. The two speeds recommended were 50m/min for harnessing tape and 100m/min for packaging tape.

Dr. Evert Smit made the comment on the point of 3.2 and the speed of the machine as well, and he believed all the proposal should have evidence supporting.

Mr. Michael Yang presented that so far, China does not have the National Standards on Dynamic Shear test and High Speed Unwind test, but CATIA will be working on it, and he believed that those standards will be implemented soon.

7. Thoughts on measurement variability

Mr. Kiran Malhotra explained the main points of measurement variability are repeatability and reproducibility. It is important to understand the variability in the test method itself so that realistic specifications can be set for product development and quality control. Details in **Appendix B.**

8. Open discussion on the path forward to promote and maintain GTF Test Methods

The real application of GTF Method is not really used worldwide, and different associations expressed their own ideas on this issue. It is important for GTF methods to be used in product literature. It was recommended that the various Trade Organizations promote the use of GTF test methods through their marketing committee.

9. Concluding remarks

TAAT accepted that they will be treasurer of GTF and pay the fees for the official website, and Afera will keep maintaining and upgrading the GTF official website.

Mr. Kiran Malhotra made the concluding comments, he thanked all GTF members for their active participation and welcomed them to join future events.

The GTMC meeting was adjourned at 11:45 am (on time).

Appendix A

GTMC Participant List

April 24, 2024, JEURONG Hotel Shanghai

(in no particular order)

1. Michel Merkx, Board Member, Pressure Sensitive Tape Council (PSTC)

2. Kiran Malhotra, Chairman, PSTC Test Method Committee and GTMC

3. Evert Smit, President, AFERA - The European Adhesive Tape Association

4. Kensei Takahashi, Secretary in General, Japan Adhesive Tape Manufacturers Association

5. Akiyoshi Masuda, Technical Committee Chairman, JATMA Technical Committee (Maxell, Ltd.)

6. Takashi Shirakawa, Deputy General Manager, Kikusui Tape Ltd.

7. Alice Chang, Secretary General, Taiwan Regional Association of Adhesive Tape Manufacturers
张玉贞 秘书长，台湾区粘性胶带工业同业公会

8. Erh-Kun Chou, Taiwan Regional Association of Adhesive Tape Manufacturers
周兒坤 理事，台湾区粘性胶带工业同业公会

9. Chi-Yue Wu, Technical Consultant, Four Pillars Enterprise Co., Ltd.
吴启裕 技术顾问，四维企业股份有限公司

10. Michael Yang, Secretary General, China Adhesives and Tape Industry Association
杨栩 秘书长，中国胶粘剂和胶粘带工业协会

11. Amy Li, Director of Membership Dept., China Adhesives and Tape Industry Association
李勇 会员部主任，中国胶粘剂和胶粘带工业协会

12. Hu Yang, Manager of Information Dept., China Adhesives and Tape Industry Association
胡阳 信息部经理，中国胶粘剂和胶粘带工业协会

13. Fly Xie, General Manager of Jiangsu Tex Year, Tex Year Group
谢飞翔 江苏德渊总经理

14. Marc Liang, Sales Director, Tex Year Group
梁俊伟 营业总监，德渊企业股份有限公司

15. Arthur Won, BU General Manager, Tex Year Group
翁振华 事业部总经理，德渊企业股份有限公司

16. Zhang Yi, Vice General Manager, Novacel (Shanghai) Co., Ltd.
张毅 副总经理，诺凡赛尔（上海）保护膜有限公司

17. Li Bangzeng, Asia Pacific Technical Manager, Novacel (Shanghai) Co., Ltd.
李帮增 亚太区技术经理，诺凡赛尔（上海）保护膜有限公司

18. Joy Ji, Maketing Director, Guangdong West Tech New Material Co., Ltd.
纪云云 市场总监，广东威斯达新材料有限公司

19. Hao Xiaopeng, Technical Manager, Zhejiang Guanhao New Material Co., Ltd.
郝晓鹏 技术经理，浙江冠豪新材料有限公司

20. Sunny Zhong, General Manager, LECCO (Zhongshan) Adhesive Products Co., Ltd.
钟泽燊 总经理，联冠（开平）胶粘制品有限公司

21. Wei Lin, R&D Manager, LECCO (Zhongshan) Adhesive Products Co., Ltd.
魏林 研发经理，联冠（开平）胶粘制品有限公司

22. Habry Zhou, Supervisor, UPM (China) Co., Ltd.
周海波 主管，芬欧汇川（中国）有限公司

23. Marvin Wang, Technical Director, Jiangsu Jaour Hot Melt Adhesive Co.,

Ltd.
王文敏 技术总监，江苏嘉好热熔胶股份有限公司

24. Wilson Wang, Deputy Sales Director, Zhejiang Jinke Adhesive Products Co., Ltd.
王凯 销售副总，浙江金科胶材股份有限公司

25. Calvin Tong, R&D Director, Zhejiang Jinke Adhesive Products Co., Ltd.
童文来 技术总工，浙江金科胶材股份有限公司

26. Li Zhonghua, General Manager, Guangzhou Startec New Material Co., Ltd.
李仲华 总经理，广州星业新材料有限公司

27. Wei Haoren, R&D Director, Guangzhou Startec New Material Co., Ltd.
韦豪任 研发总监，广州星业新材料有限公司

28. Summer Xiong, Vice Director, Eternal Materials Co., Ltd.
熊燕 事业副部长，长兴材料工业股份有限公司

29. Kerwin Tsao, Eternal Materials Co., Ltd.
曹国纬 博士，长兴材料工业股份有限公司

30. Nick Pan, Vice General Manager, Eternal Materials Co., Ltd.
潘金城 副总，长兴材料工业股份有限公司

31. Huang Wenzhi, R&D, RHEO Technology Co., Ltd.
黄文志 研发，上海十盛科技有限公司

32. Pan Yuzhi, General Manager, Microland (Shanghai) Limited
潘裕之 总经理，裕光新材料科技（浙江）有限公司

33. Wei-Jen Lin, RD, Chung Hwa Pulp Corporation
林威任 研发，中华纸浆股份有限公司

34. Murphy Ho, Plant Manager, Chung Hwa Pulp Corporation
何晋伟 生产厂长，中华纸浆股份有限公司

35. Selina Zhu, Assistant Procurement Manager, Lohmann Adhesive Tape Technologies Tianjin Co., Ltd.
朱文擎 采购助理，罗曼胶带技术（天津）有限公司

36. Cheng Shijun, R&D Manager, Shushi Group Co., Ltd.

程世君 研发经理，舒氏集团有限公司

37. Gao Song, R&D Engineer, Shushi Group Co., Ltd.
高松 研发工程师，舒氏集团有限公司

38. Xia Zhaoxiang, R&D Engineer, Shushi Group Co., Ltd.
夏赵祥 研发工程师，舒氏集团有限公司

39. Wang Dan, Senior Manager, Tesa Plant (Suzhou) Co., Ltd.
王丹 高级经理，德莎（苏州）胶带技术有限公司

40. Ding Hongmei, Project Manager, Shanghai Huayi Group Investment Co., Ltd.
丁红梅 项目经理，上海华谊集团投资有限公司

41. Huang Zhicong, Chairman, Pao Yan Industrial Technology (Nantong) Co., Ltd.
黄智聪 董事长，宝燕工业科技（南通）有限公司

42. Shining Deng, General Manager, LUM (Jiangsu) Instruments Co., Ltd.
邓世宁 总经理，罗姆（江苏）仪器有限公司

43. Miao Yunxin, Technical Sales Manager, LUM (Jiangsu) Instruments Co., Ltd.
缪云新 技术销售经理，罗姆（江苏）仪器有限公司

44. Jia Xiaochuan, Global Sales Manager, Guangzhou WUX Material Science Co., Ltd.
贾小川 外贸销售经理，广州五行材料科技有限公司

45. Zhu Shuangcheng, Marketing Director, Jiangsu Smith New Material Technology Co., Ltd.
朱双程 市场部总监，江苏晶华新材料股份有限公司

46. Zhang Yanlin, Marketing Assistant, Jiangsu Smith New Material Technology Co., Ltd.
张艳琳 市场分析助理，江苏晶华新材料股份有限公司

47. Daniel Zhu, Marketing Manager, BASF (China) Co., Ltd.
朱炜炜 市场经理，巴斯夫（中国）有限公司

48. Fu Haiping, Technical Manager, Shanghai Synthomer Chemicals Co., Ltd.

符海平 技术经理, 上海昕特玛化学品有限公司

49. Liu Hanxiang, Sales Director, Wing Tai (Zhongshan) Co., Ltd.
刘汉祥 销售总监, 永大（中山）有限公司

50. Gao Fugang, Technical Manager, Dongguan Co-Mo Adhesives Co., Ltd.
高福刚 技术经理, 东莞市成铭胶粘剂有限公司

51. Kevin Hsu, Technical Senior Chemist, TSRC (Shanghai) Industries Ltd.
许凯胜 资深化学师, 台橡（上海）实业有限公司

Appendix B

Brief Outline of Measurement Variability Studies

- Establishes variability of the test method based on Repeatability and Reproducibility.
- Tape testing is destructive, and the same sample cannot be used for the study. Samples need to be selected as close to each other as possible.
- Repeatability: test results obtained in the same laboratory on selected samples by the same operator using the same method.
- Reproducibility: test results obtained on selected samples with the same test method in different laboratories with different operators using equivalent equipment. In cases where such a study is impractical the plan may be modified to use the same laboratory by multiple operators on the same instrument.
- Any valid statistical methodology may be used to determine repeatability and reproducibility. The method used should be attached to the test method being developed.
- The study will establish a standard deviation for the test method that can be used to set specifications. It can also be used to determine if current specifications are too tight for the test method used.