ALL ON EDGE

Development of Objective Test Methods for Furniture Edges and Rims

„Adhesion resistance”

Workpackage WP-A

Magdalena Nowaczyk-Organista

Patrycja Hochmańska

Tomasz Oleszek

Surface Testing Department

Wood Technology Institute, Poznan

The National Centre for Research and Development

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The aims of WP-A

- Development or modification of resistance test methods to **IMPACT** and **ADHESION.**

- Comparison of methods on their repeatability and reproducibility level.

- Preparation of the final description of suitable mechanical and adhesion methods as a proposal for the European Standardization Group.

Activities of WP-A

Leader: IHD

TASKS	ACTIVITY	RESPONSIBLE	TASK STATUS
A-1	Definition, preparation and providing of different furniture edges	IHD/ITD	done
A-2	Methodological investigations on new test methods on impact on edges and rims	IHD	done
A-3	Methodological investigations on new test methods on adhesion resistance on rims	ITD	In progress
A-4	Comparative tests of the methods on mechanical resistance	IHD/ITD	only impact done
A-5	Round robin tests of optimized test methods on mechanical resistance	IHD/ITD	only impact In progress
A-6	Final description of suitable methods for mechanical resistance	IHD/ITD	

„Adhesion resistance” status

- **Comparative tests** in about 2-3 months
- **Planned milestone M-A3**: Assessment of the developed test methods for adhesion on the ability for differentiation and the repeatability is almost reached
- **Round Robin Test** in about 6-7 months

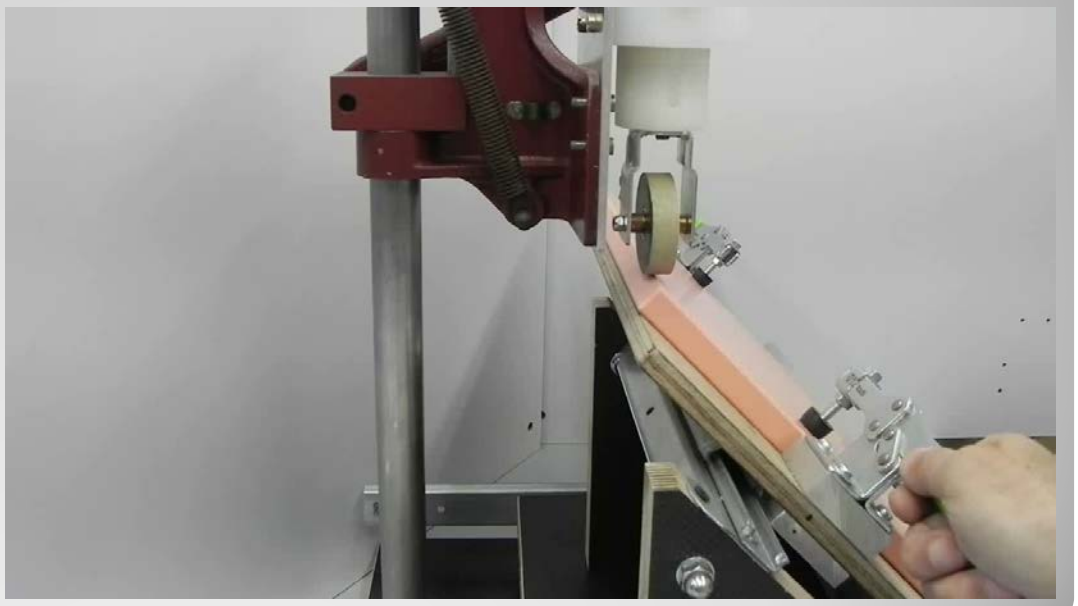
work package	activity/task	(project months)																					
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
WP-A	**Mechanical and adhesion resistance**																							
Task-A1	Definition, production and providing of samples with different furniture edges	x	x	x	x																			
Task-A2	Methodological investigations on new test methods on impact on egdes and rims				x	x	x	x	x	x	x	x												
Task-A3	Methodological investigations on new test methods on adhesion resistance on rims				x	x	x	x	x	x	x	x	x											
Task-A4	Comparative tests of the optimised methods on mechanical resistance											x	x	x	x									
Task-A5	Round robin tests of optimized test methods on mechanical resistance															x	x	x	x					
Task-A6	Final description of suitable methods for mechanical resistance																			x				
	Deliverables and Milestones																							
	Deliverable											D-A2 D-B2	D-A3 D-B3		D-A4 D-B4 D-C2					D-C3	D-C4			D-A6 D-B6 D-C6
	Milestones									M-A2 M-B2	M-A3 M-B3			M-C2					M-A5 M-B5 M-C3				M-C5	
	Reports												R1											

Task A-1 Test materials

Variant	Substrate	Material on the edge	Material on the board surface
13	MDF	Green-pigmented waterborne acrylic	Green-pigmented waterborne UV
14	MDF	Black-pigmented waterborne acrylic	Black-pigmented waterborne UV
15	MDF	White-pigmented waterborne	White-pigmented waterborne
16	MDF	Pink-pigmented waterborne	Pink-pigmented waterborne

Task A-3
Assumption of test method

✓Medium - wheel with **abrasive material** and **flat or grooved wheel** rolled on rim with linear movement.
✓After defined number of cycles adhesive tape placed on tested rim and next removed.
✓Examine the adhesive tape acc. to scale rate (0-5).



Task A-3
Investigation parameters

✓Test sample placed on the mobile jig (base) at an angle of 45° with upper edge extending beyond jig.

✓Medium arranged at the bottom of the head mounted on a stand, while the load is located in the upper part of the head.

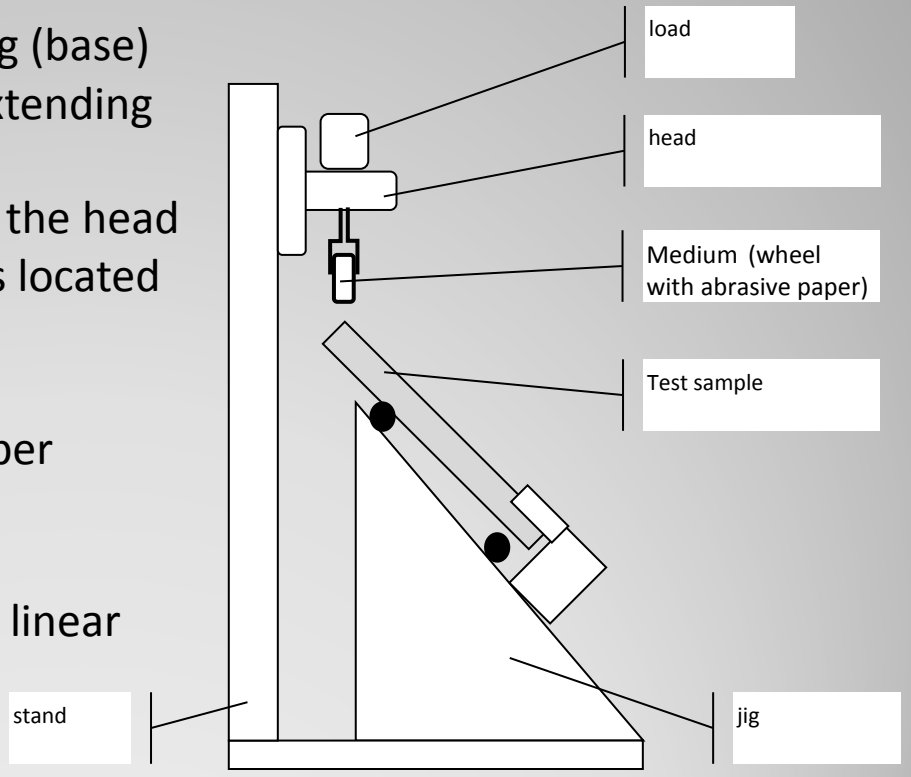
✓Media:

- •Rubber wheel with abrasive paper
- •Metal wheel flat
- •Metal wheel grooved

✓The wheel is rolling on the rim with linear movement with distance of 20 cm.

✓Number of cycles: 1-10.

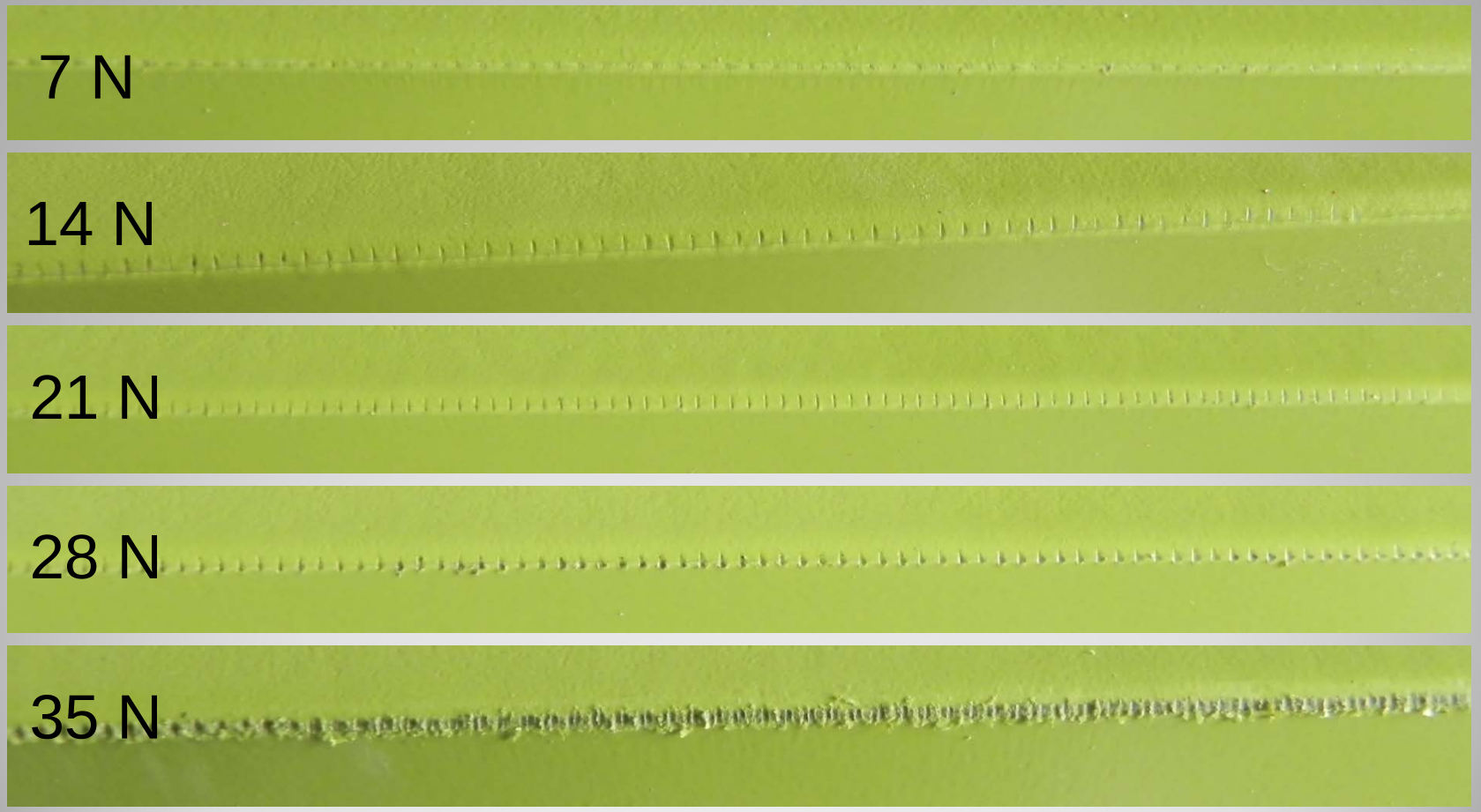
✓Load 7-35N.



Task A-3
Results – Grooved wheel – 10 cycles

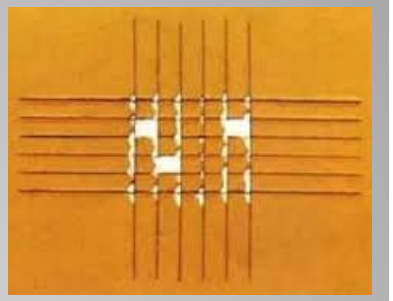
medium
– brass grooved wheel
– diameter 50 mm
– width 20 mm

Task A-3
Results – Grooved wheel – 10 cycles



Task A-3
Results – Impact ball – 45°, 100 g

Task A-3
New assumption of adhesion test



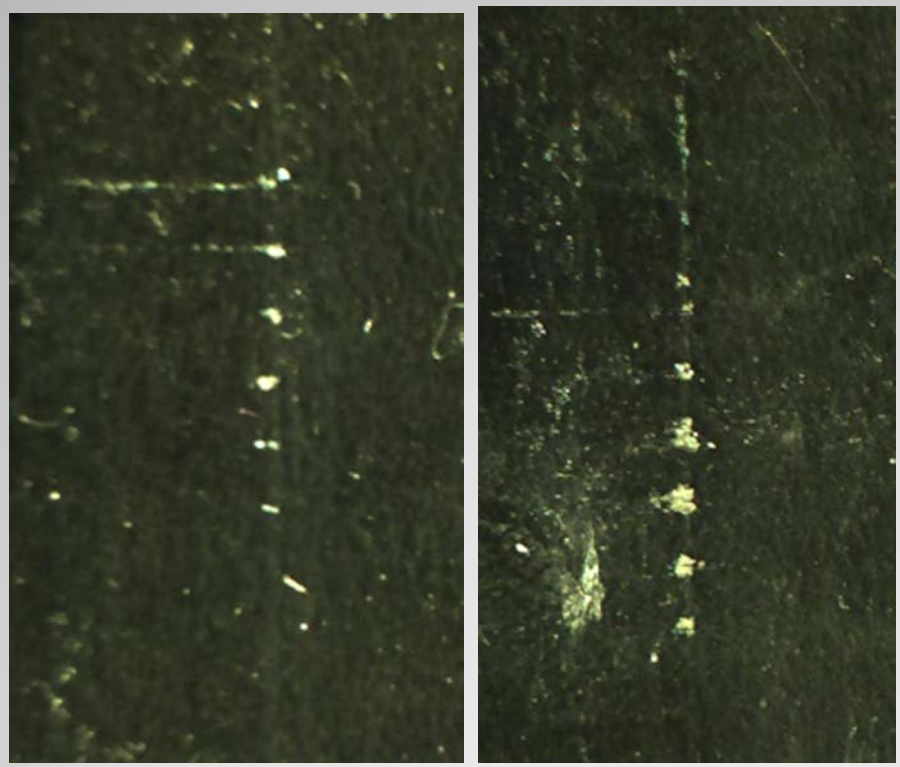
✓Use the methodology of adhesion test for flat surfaces – **cross-cut test**

✓Assessing the resistance of paint coatings **on rim** to separation from substrates when a **strip pattern** is cut into the coating, penetrating through to the substrate.

✓Medium: cutting knife

✓Evaluation: **Pass/fail** scale rate after a **short treatment with adhesive tape**

Task A-3
Preliminary results – cutting knife



Flakes of coating
on adhesive type

Photo.A Kropacz

mtv cross cut test with self adjusting cutting head and automatic reset function, ideal for curved surfaces
Cutting knife with single resiliently mounted cutting edges
Cutting distance 6 x 1 mm (0-60 µm)
Conform to DIN EN ISO 2409

Next steps

- ✓**Development of new method for adhesion resistance test**
- ✓**Assessment of test method on repeatability**
- ✓**Comparative test** - the test round at IHD & ITD
  - Start: May-June 2017?
- ✓**Round Robin Test**
  - Start: September-October 2017?
  - Participants

Lp.	Participant
1	ITD
2	IHD
3	
4	
5	

Thank You for your attention!

Magdalena Nowaczyk-Organista, PhD
m_nowaczyk@itd.poznan.pl

Patrycja Hochmańska, PhD (Eng)
p_hochmanska@itd.poznan.pl

Surface Testing Department
Wood Technology Institute
Winiarska 1
PL 60-654 Poznań
phone: +48 61 849 24 45
fax: +48 61 822 43 72

cornet