



Report 69443

Test Report

Applicant

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Reference

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Application

Determination of dynamic coefficient of friction according to EN 13893.

Test Material

Paneele

Material used in testing was anonymized for laboratory purposes. A detailed sample list is contained in the report.

Issuing and Signatures

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Authorised for Institute
Astrid Damböck

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1 Order

1.1 Chronology

<i>Date</i>	<i>Received</i>	<i>Order</i>
2012-08-10	2012-08-14	Determination of dynamic coefficient of friction according to EN 13893.

1.2 Samples

<i>No.</i>	<i>Received</i>	<i>Sample Identification</i>
1	2012-08-14 ⁽¹⁾	"AG"
2	2012-08-14 ⁽¹⁾	"AT"
3	2012-08-14 ⁽¹⁾	"HG"
4	2012-08-14 ⁽¹⁾	"LM"
5	2012-08-14 ⁽¹⁾	"PO"
6	2012-08-14 ⁽¹⁾	"SF"
7	2012-08-14 ⁽¹⁾	"SG"
8	2012-08-14 ⁽¹⁾	"SJ"
9	2012-08-14 ⁽¹⁾	"SM"
10	2012-08-14 ⁽¹⁾	"SR"

(1) Samples provided by the customer. (2) Sample drawn by ÖTI.

2 Findings / Tests performed

The tested samples are laminate floor coverings according to EN 13329 "Laminate floor coverings – Elements with a surface layer based on aminoplastic thermosetting resins – Specifications, requirements and test methods" with different surface types.



2.1 Measurement of dynamic coefficient of friction on dry floor surfaces

Test conditions

According to EN 13893

Test apparatus: GMG 200 SC

Sliders: Group consisting of two leather- and one rubber-slider

Number of measurements: 5 each, evaluation is taken only from measurements 3-5

Test climate: $23 \pm 2^\circ\text{C}$ / $50 \pm 5\%$ relative air humidity

Test results

Tested sample: 1

Measurement	dynamic coefficient of friction [μ]	
	length direction	cross direction
3	0.56	0.47
4	0.55	0.45
5	0.57	0.53
Mean value	0.56	0.48

Diagram length direction

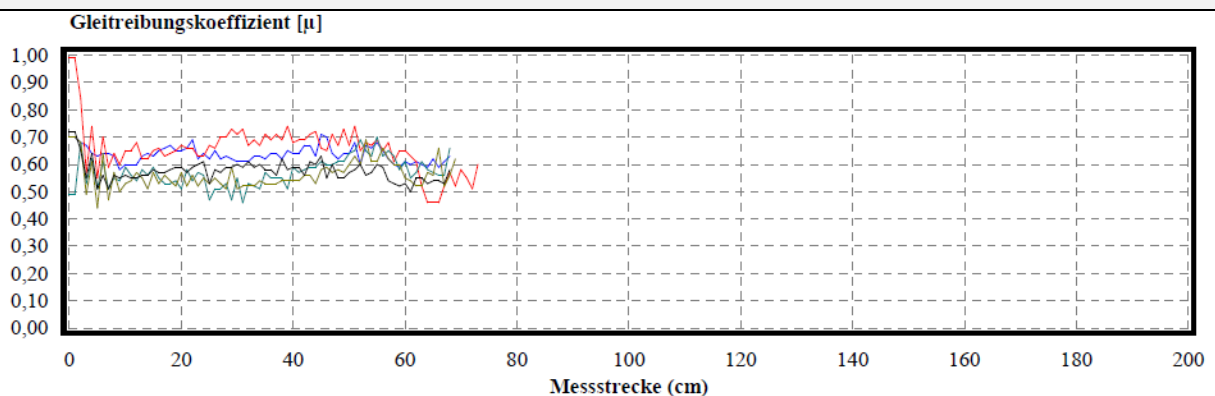
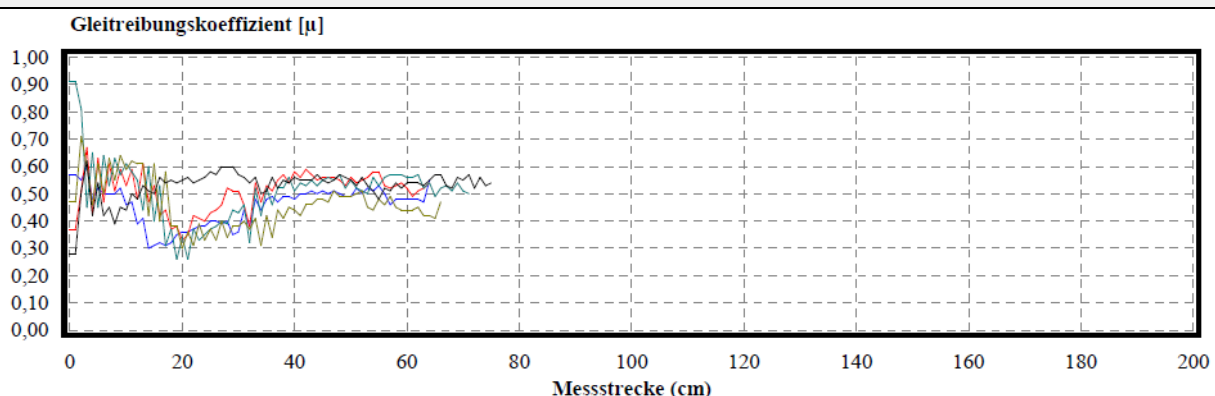


Diagram cross direction





Tested sample: 2

Measurement	dynamic coefficient of friction [μ]	
	length direction	cross direction
3	0.65	0.64
4	0.70	0.63
5	0.65	0.63
Mean value	0.67	0.63

Diagram length direction

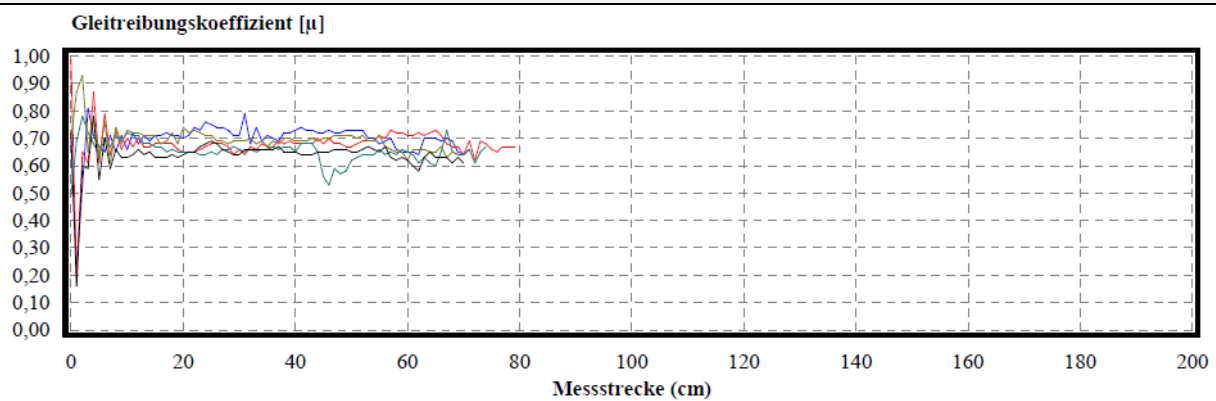
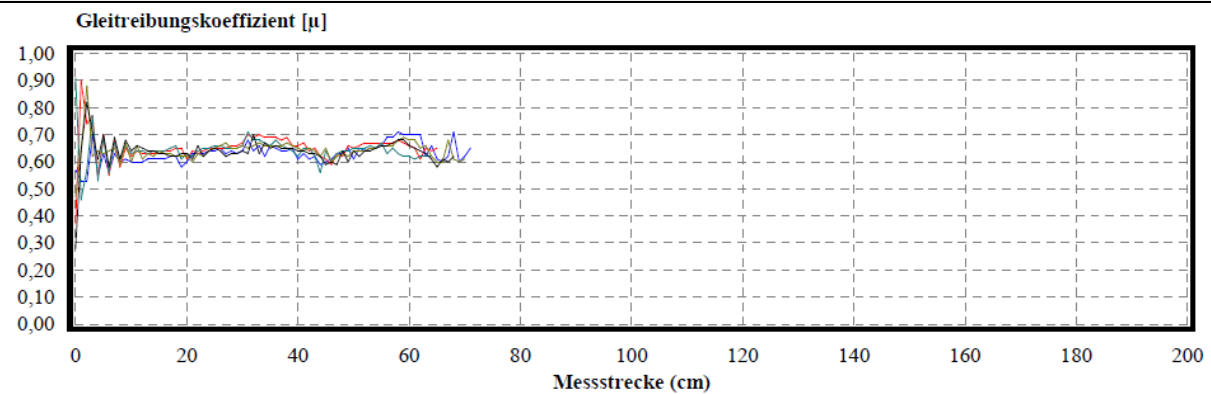


Diagram cross direction





Tested sample: 3

Measurement	dynamic coefficient of friction [μ]	
	length direction	cross direction
3	1.11	0.76
4	1.11	0.84
5	0.89	0.85
Mean value	1.04	0.82

Diagram length direction

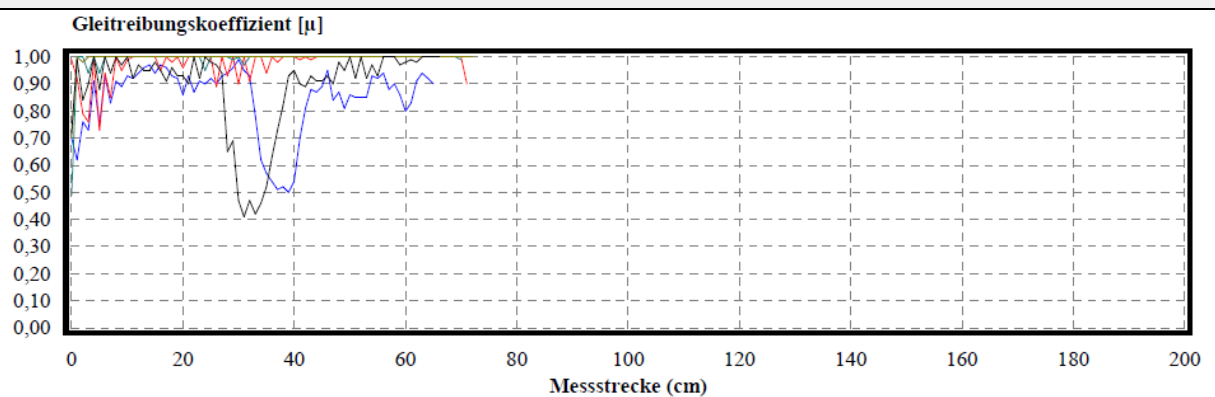
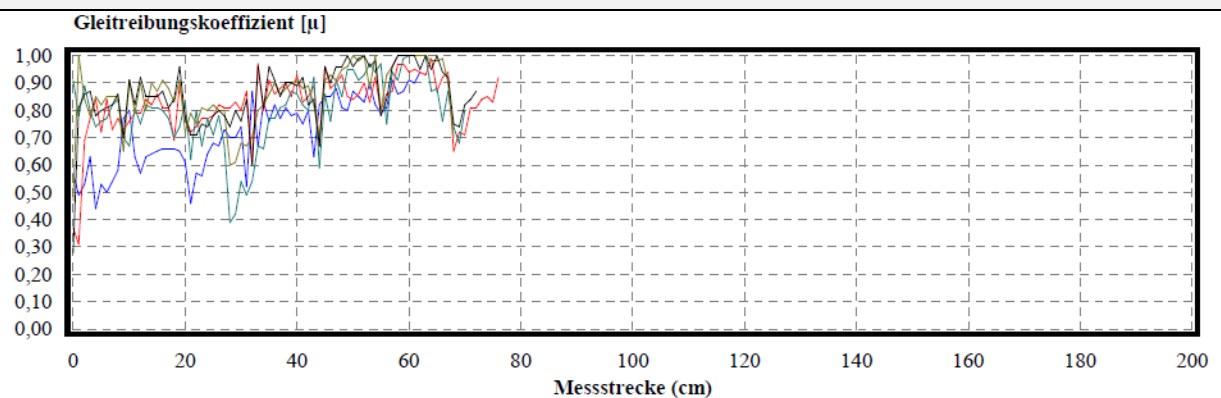


Diagram cross direction





Tested sample: 4

Measurement	dynamic coefficient of friction [μ]	
	length direction	cross direction
3	0.56	0.58
4	0.59	0.59
5	0.58	0.59
Mean value	0.58	0.59

Diagram length direction

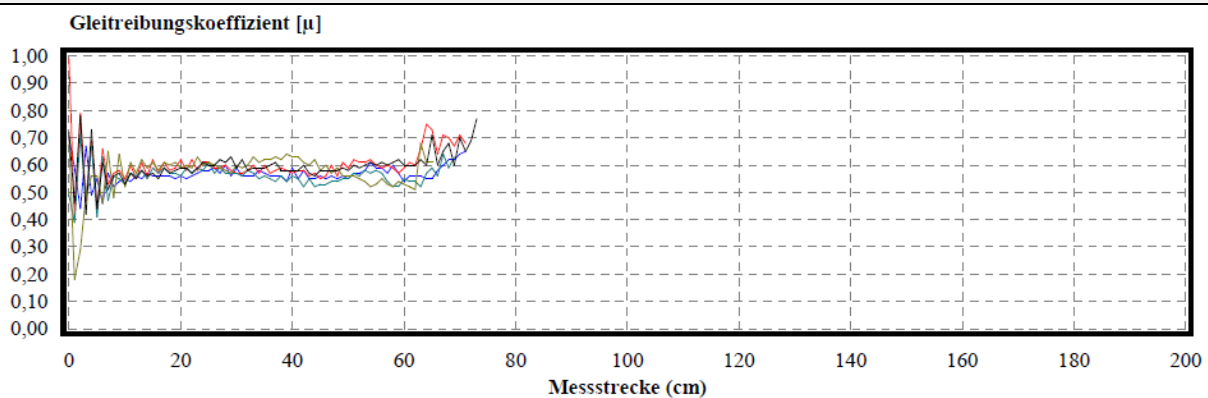
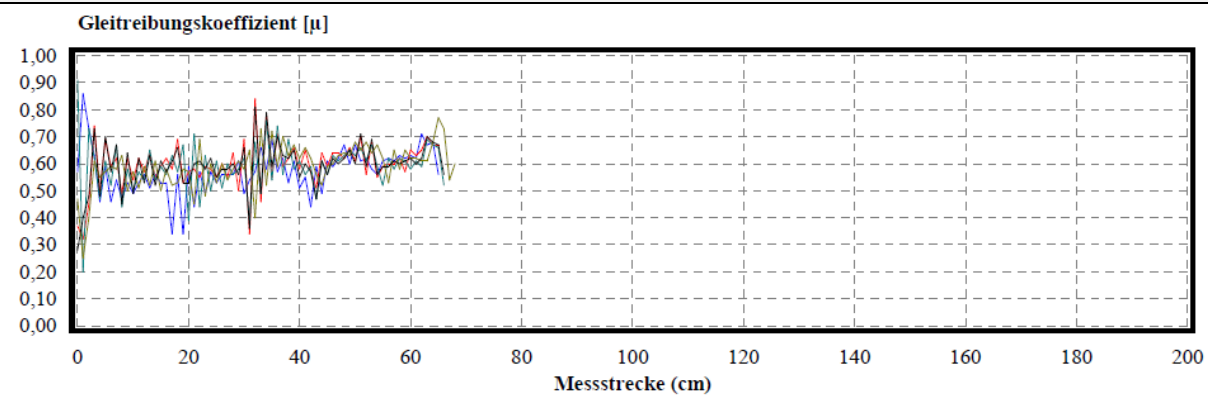


Diagram cross direction





Tested sample: 5

Measurement	dynamic coefficient of friction [μ]	
	length direction	cross direction
3	0.66	0.59
4	0.62	0.57
5	0.64	0.53
Mean value	0.64	0.56

Diagram length direction

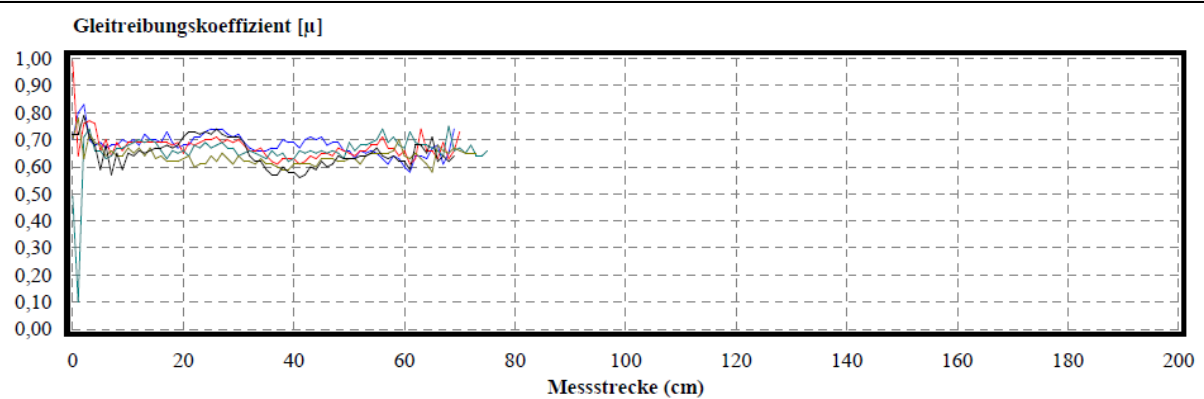
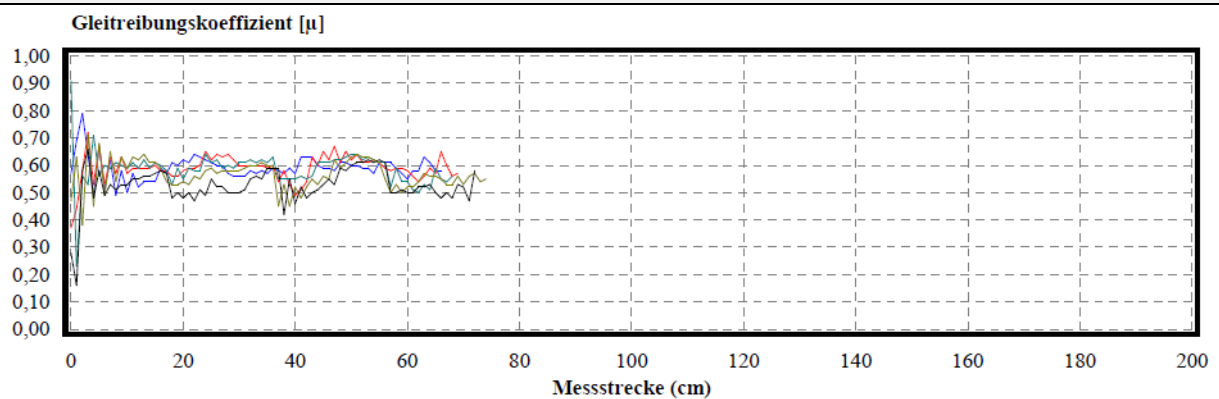


Diagram cross direction





Tested sample: 6

Measurement	dynamic coefficient of friction [μ]	
	length direction	cross direction
3	0.75	0.58
4	0.64	0.56
5	0.66	0.58
Mean value	0.68	0.57

Diagram length direction

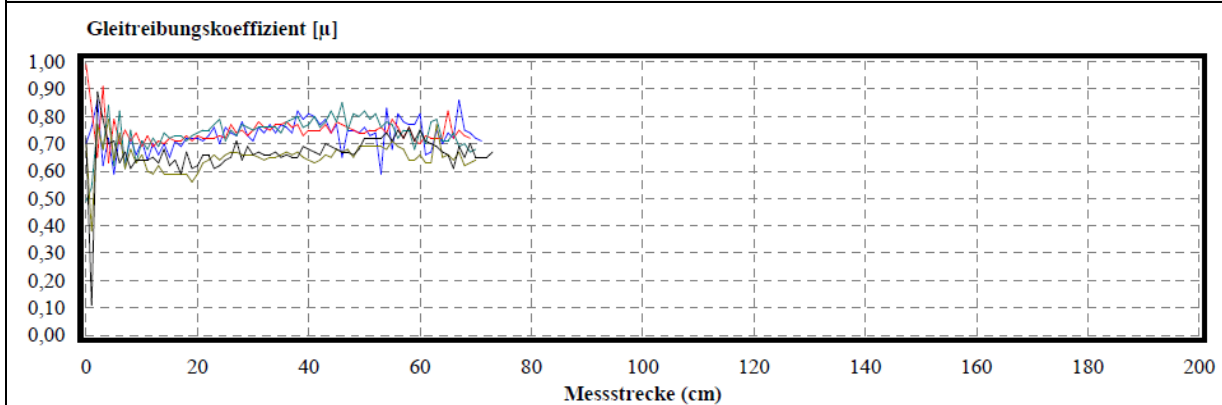
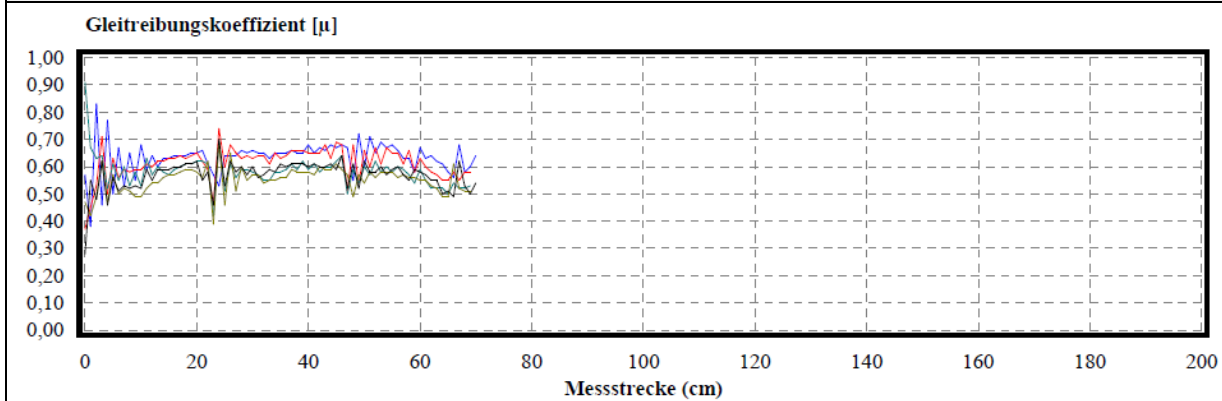


Diagram cross direction





Tested sample: 7

Measurement	dynamic coefficient of friction [μ]	
	length direction	cross direction
3	0.72	0.61
4	0.71	0.61
5	0.71	0.59
Mean value	0.71	0.60

Diagram length direction

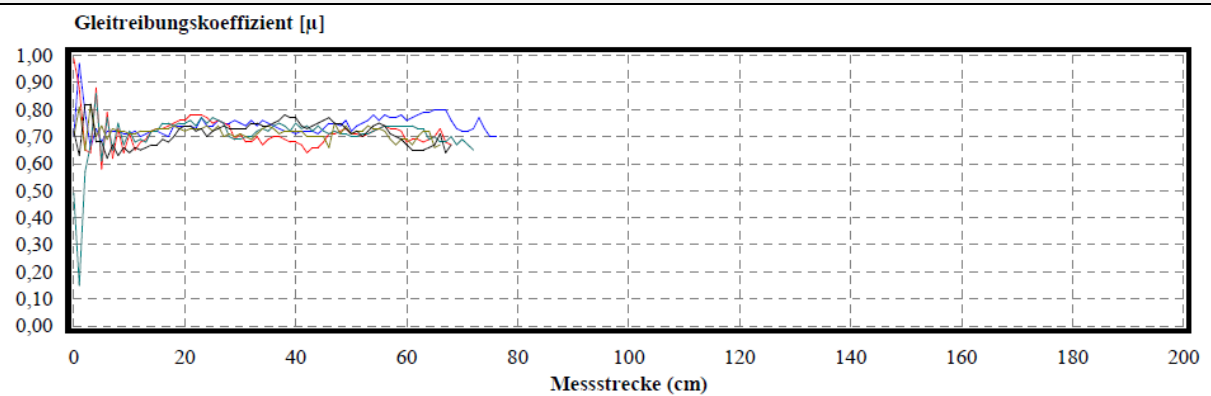
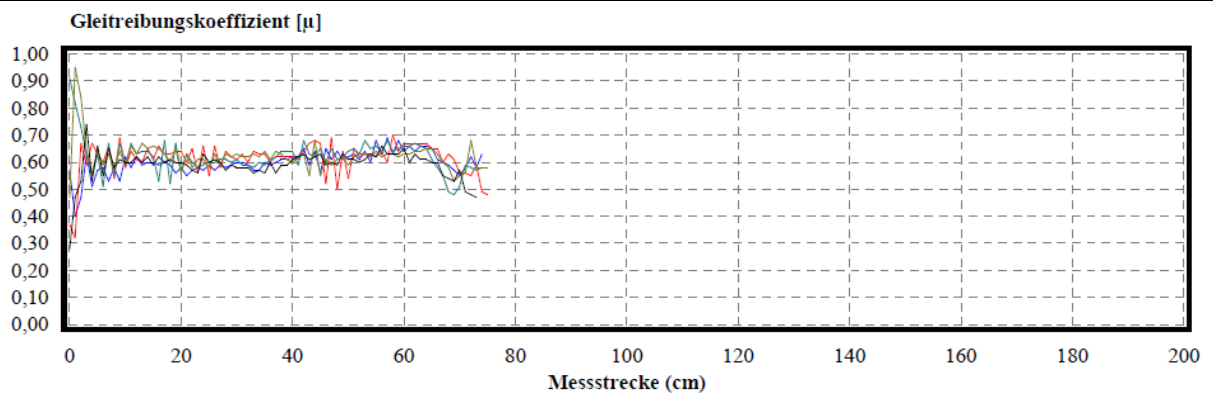


Diagram cross direction





Tested sample: 8

Measurement	dynamic coefficient of friction [μ]	
	length direction	cross direction
3	0.62	0.61
4	0.62	0.55
5	0.60	0.54
Mean value	0.61	0.57

Diagram length direction

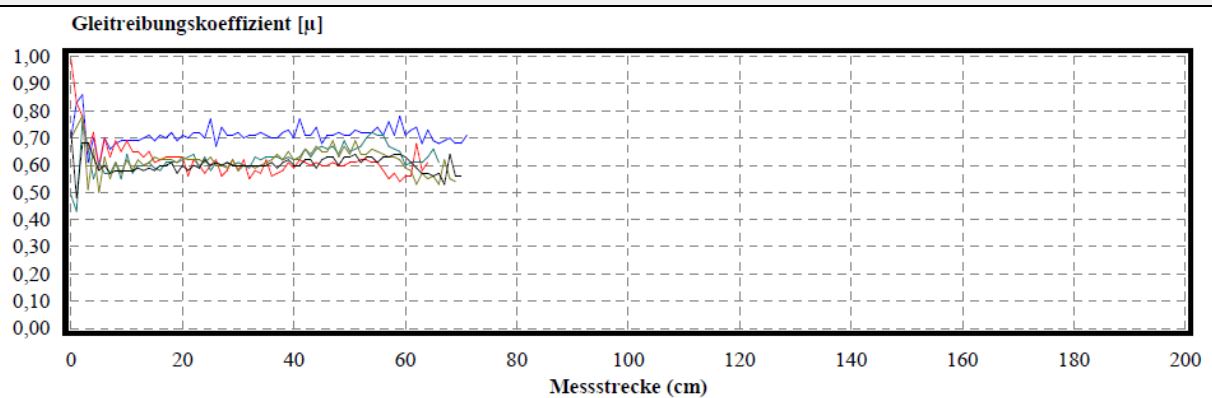
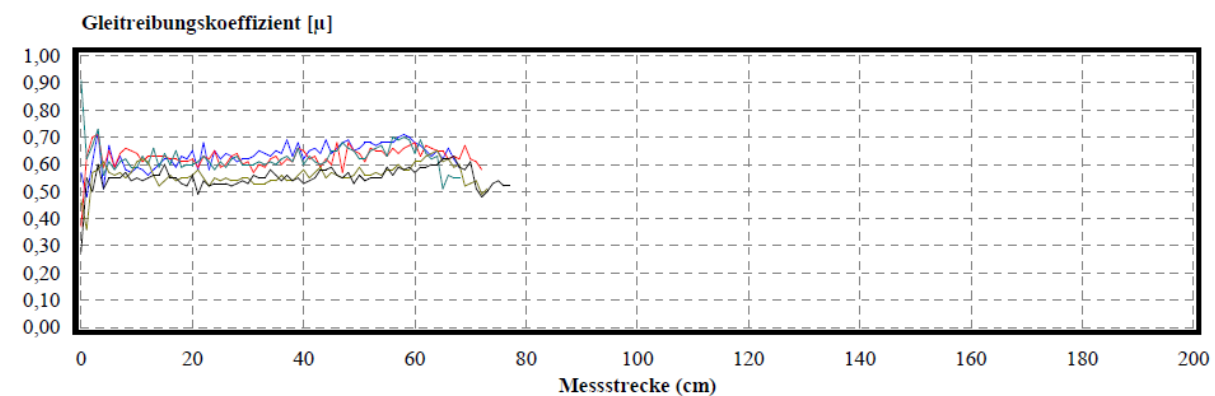


Diagram cross direction





Tested sample: 9

Measurement	dynamic coefficient of friction [μ]	
	length direction	cross direction
3	0.40	0.36
4	0.37	0.41
5	0.43	0.38
Mean value	0.40	0.38

Diagram length direction

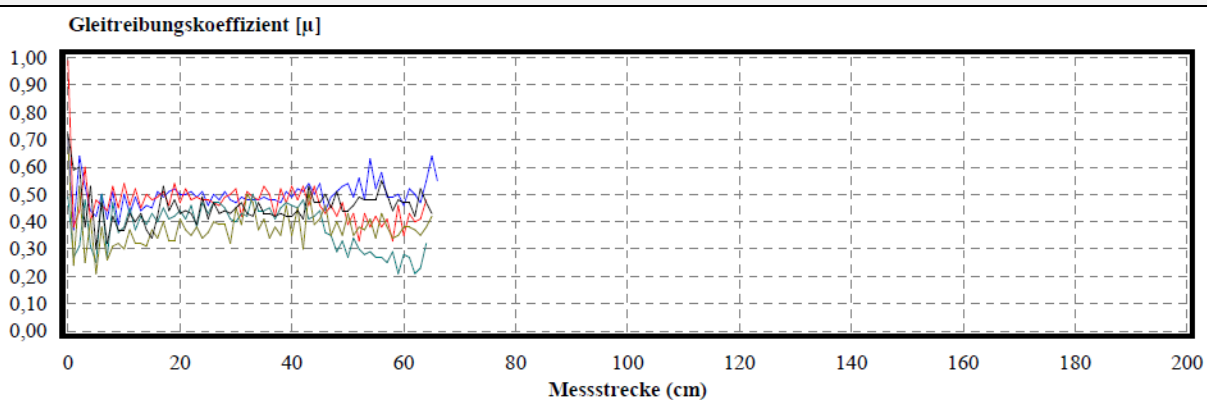
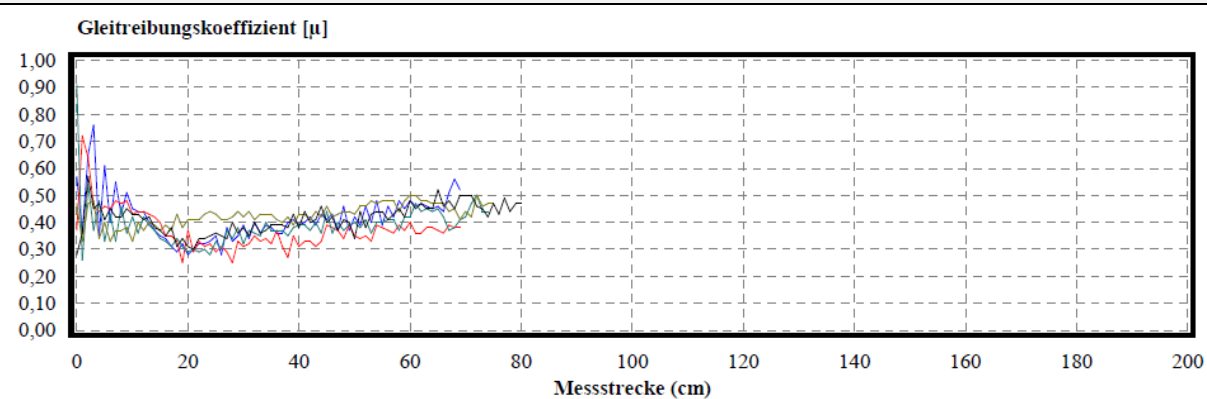


Diagram cross direction





Tested sample: 10

Measurement	dynamic coefficient of friction [μ]	
	length direction	cross direction
3	0.63	0.55
4	0.67	0.54
5	0.63	0.52
Mean value	0.64	0.54

Diagram length direction

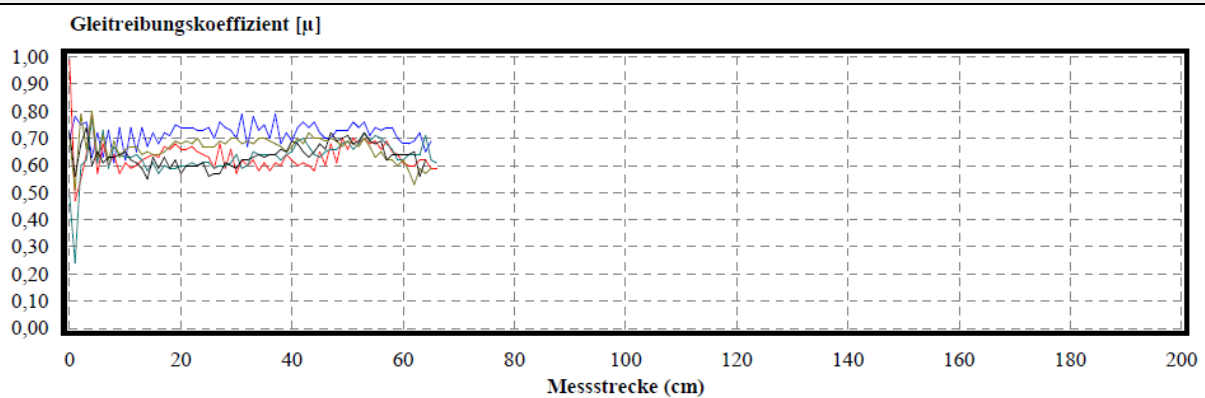
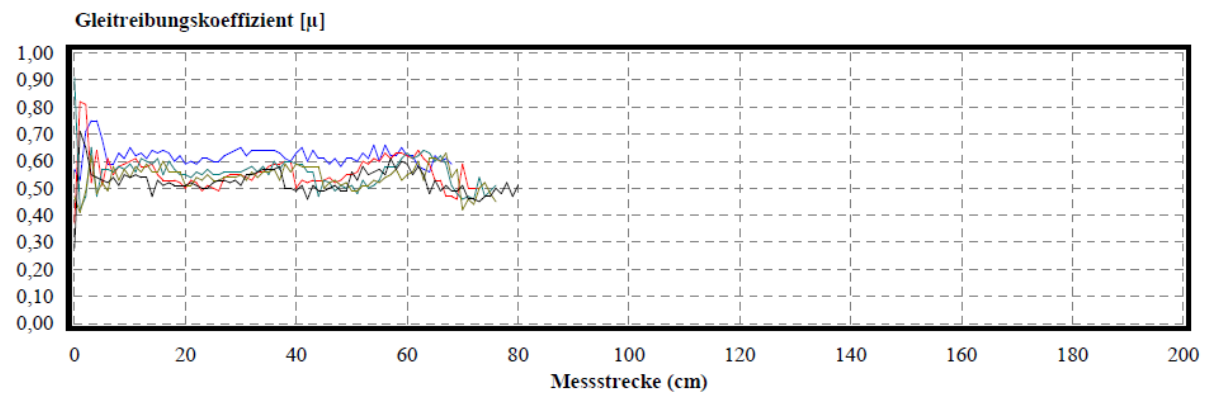


Diagram cross direction





3 Expertise

The judgement of the dynamic coefficient of friction (the lower mean value is determining) as criteria for the safety in walking is based on the experiences in the institute and the published technical literature. The following estimation scheme, based on the "Wuppertaler Gleitreibungsskala" is only valid for a "straight normal walk".

dynamic coefficient of friction [μ]	assessment
< 0.21	extremely unsafe
0.22 – 0.29	unsafe
0.30 – 0.42	partly safe
0.43 – 0.63	safe
> 0.64	extremely safe

Regarding to dynamic coefficient of friction all samples fulfill the technical class DS according to EN 14041 "Resilient, textile and laminate floor covering – Essential characteristics".



4 Remarks

Validity

There are no regulations concerning duration of validity in the individual test standards. As the results of the examinations refer only to the submitted and examined samples, the report is valid for these for an unlimited period. A period of validity specified as part of an expert evaluation is in the discretion of the consultant or the ÖTI.

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The accreditation by the Federal Ministry of Economy, Family and Youth as testing laboratory was repeated under reference BMWFJ-97.714/0198-I/12/2012 (Individual accredited test procedures are marked with the federal laboratory logo): The accreditation for testing and inspection of construction products was given by the OIB (Austrian Institute of Construction Engineering). Details and other accreditations are given on request and can be found on www.oeti.biz.

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