



## Report VN725 142552.1 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

Laminate floor covering, surface structures „RS“, „HC“, „TC“, „TW“, „LM-S“, „DLM-R“, „RI“, „VS“, „HLM-R“, „HLM“, „LH“, „LO“, „TS“

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  
Ing. Hannes Vittek

A handwritten signature in blue ink, appearing to read "Vittek", written over a horizontal dotted line.

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## 1. Order

### 1.1. Chronology

Date	Received	Order
11.06.2018	13.06.2018	Determination of dynamic coefficient of friction according to EN 13893.

### 1.2. Samples

Nr.	Received	Sample Identification
1	13.06.2018	Laminate floor covering, surface structure „RS“
2	13.06.2018	Laminate floor covering, surface structure „HC“
3	13.06.2018	Laminate floor covering, surface structure „TC“
4	13.06.2018	Laminate floor covering, surface structure „TW“
5	13.06.2018	Laminate floor covering, surface structure „LM-S“
6	13.06.2018	Laminate floor covering, surface structure „DLM-R“
7	13.06.2018	Laminate floor covering, surface structure „RI“
8	13.06.2018	Laminate floor covering, surface structure „VS“
9	13.06.2018	Laminate floor covering, surface structure „HLM-R“
10	13.06.2018	Laminate floor covering, surface structure „HLM“
11	13.06.2018	Laminate floor covering, surface structure „LH“
12	13.06.2018	Laminate floor covering, surface structure „LO“
13	13.06.2018	Laminate floor covering, surface structure „TS“

(Unless otherwise stated samples are provided by the customer.)

## 2. Findings / Tests performed

### 2.1. Description of the specimen

The tested samples are laminate floor coverings according EN 13329 with circulated click-connection with four different surface structures and the following dimensions:

Sample	Structure	Dimensions
1	„RS“	1383 mm x 224 mm x 8,0 mm
2	„HC“	1383 mm x 193 mm x 8,0 mm
3	„TC“	1285 mm x 327 mm x 8,0 mm
4	„TW“	1285 mm x 327 mm x 8,0 mm
5	„LM-S“	1383 mm x 159 mm x 8,0 mm
6	„DLM-R“	1383 mm x 159 mm x 8,0 mm
7	„RI“	1383 mm x 193 mm x 8,0 mm
8	„VS“	1383 mm x 193 mm x 8,0 mm
9	„HLM-R“	1383 mm x 159 mm x 8,0 mm
10	„HLM“	1383 mm x 159 mm x 8,0 mm
11	„LH“	2000 mm x 192 mm x 10,0 mm
12	„LO“	2000 mm x 192 mm x 10,0 mm
13	„TS“	1285 mm x 327 mm x 8,0 mm

### 2.2. Measurement of dynamic coefficient of friction

#### 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 ± 2°C/ 50 ± 5% relative air humidity

#### Test results

Tested sample: 1

dynamic coefficient of friction [ $\mu$ ]		
Measurement	length direction	cross direction
1	0,56	0,56
2	0,50	0,56
<b>3</b>	<b>0,48</b>	<b>0,56</b>
<b>4</b>	<b>0,42</b>	<b>0,56</b>
<b>5</b>	<b>0,55</b>	<b>0,55</b>
<b>Mean value</b>	<b>0,52</b>	<b>0,56</b>

Diagram length direction

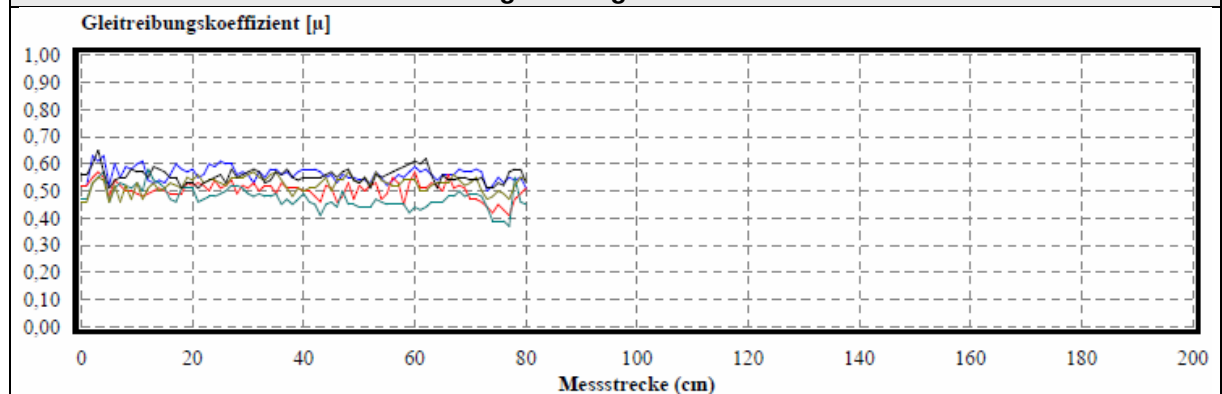
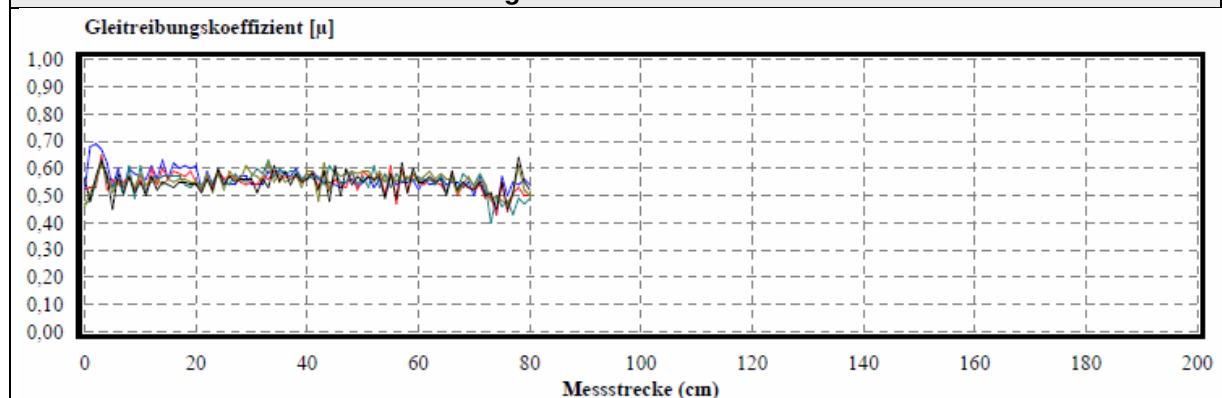


Diagram cross direction



## Evaluation

The tested laminate floor covering can be classified as **technical class DS** according to EN 14041.

Tested sample: 2

dynamic coefficient of friction [ $\mu$ ]		
Measurement	length direction	cross direction
1	0,63	0,51
2	0,58	0,49
<b>3</b>	<b>0,54</b>	<b>0,49</b>
<b>4</b>	<b>0,54</b>	<b>0,48</b>
<b>5</b>	<b>0,51</b>	<b>0,48</b>
<b>Mean value</b>	<b>0,53</b>	<b>0,48</b>

Diagram length direction

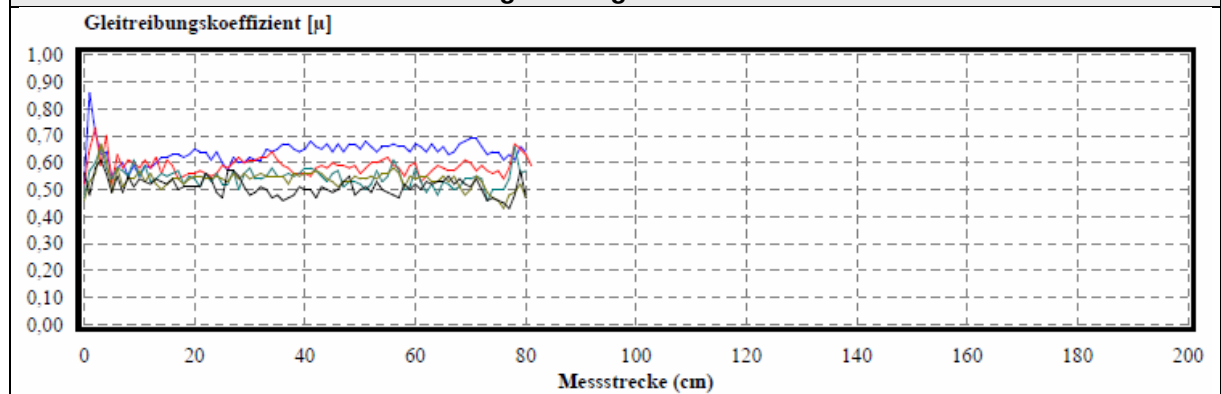
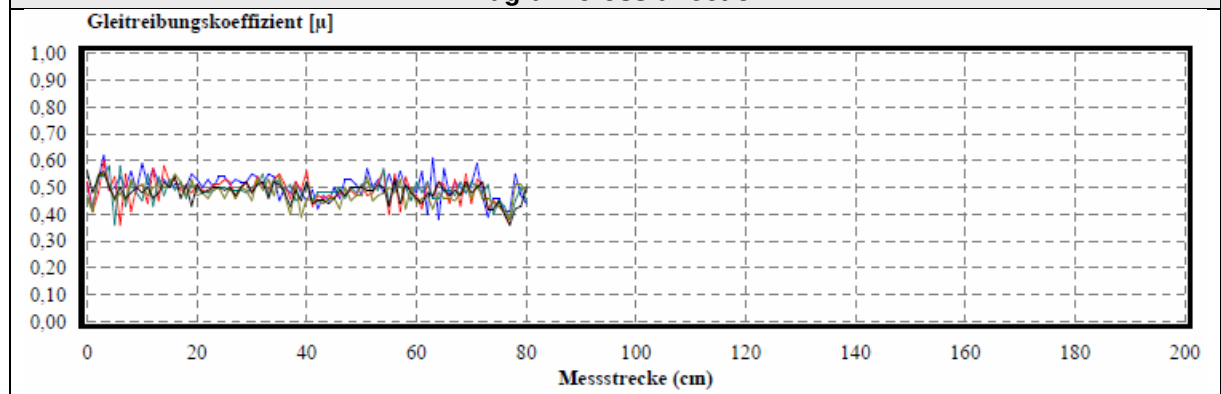


Diagram cross direction



### Evaluation

The tested laminate floor covering can be classified as **technical class DS** according to EN 14041.

Tested sample: 3

dynamic coefficient of friction [ $\mu$ ]		
Measurement	length direction	cross direction
1	0,60	0,57
2	0,58	0,56
<b>3</b>	<b>0,62</b>	<b>0,55</b>
<b>4</b>	<b>0,62</b>	<b>0,55</b>
5	0,58	0,54
<b>Mean value</b>	<b>0,61</b>	<b>0,55</b>

Diagram length direction

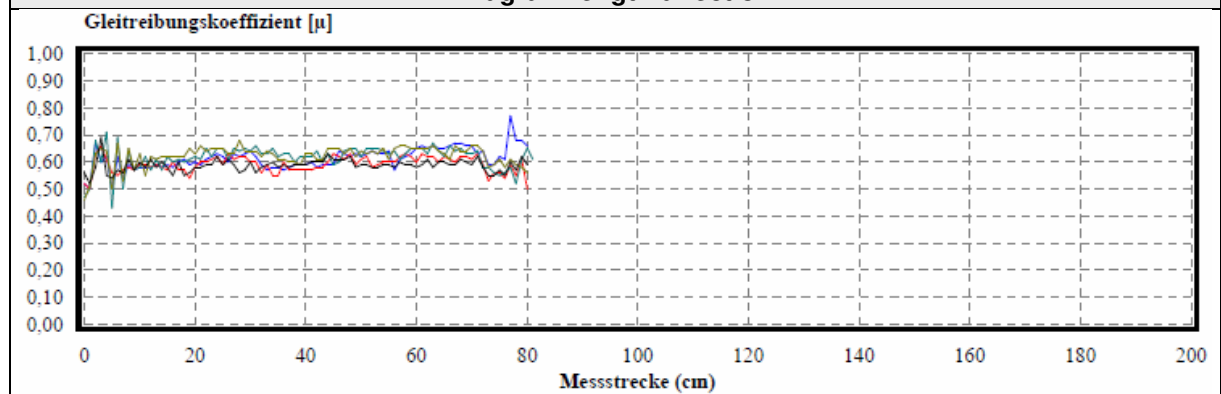
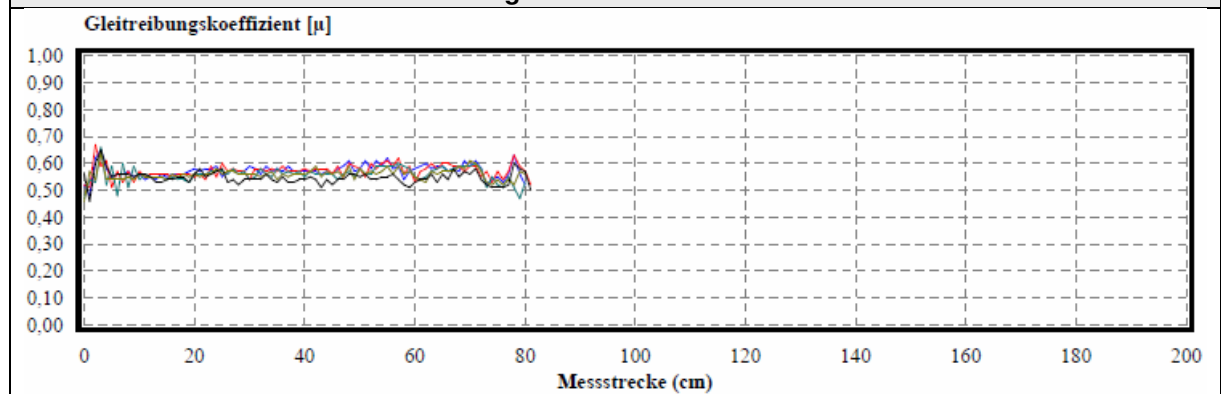


Diagram cross direction



### Evaluation

The tested laminate floor covering can be classified as **technical class DS** according to EN 14041.

Tested sample: 4

dynamic coefficient of friction [ $\mu$ ]		
Measurement	length direction	cross direction
1	0,59	0,56
2	0,59	0,60
<b>3</b>	<b>0,57</b>	<b>0,59</b>
<b>4</b>	<b>0,53</b>	<b>0,56</b>
<b>5</b>	<b>0,56</b>	<b>0,58</b>
<b>Mean value</b>	<b>0,55</b>	<b>0,58</b>

Diagram length direction

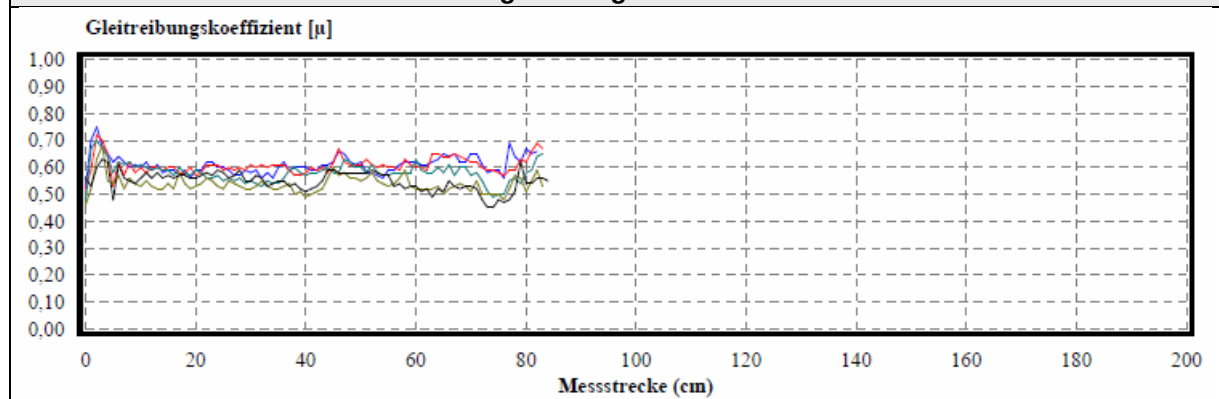
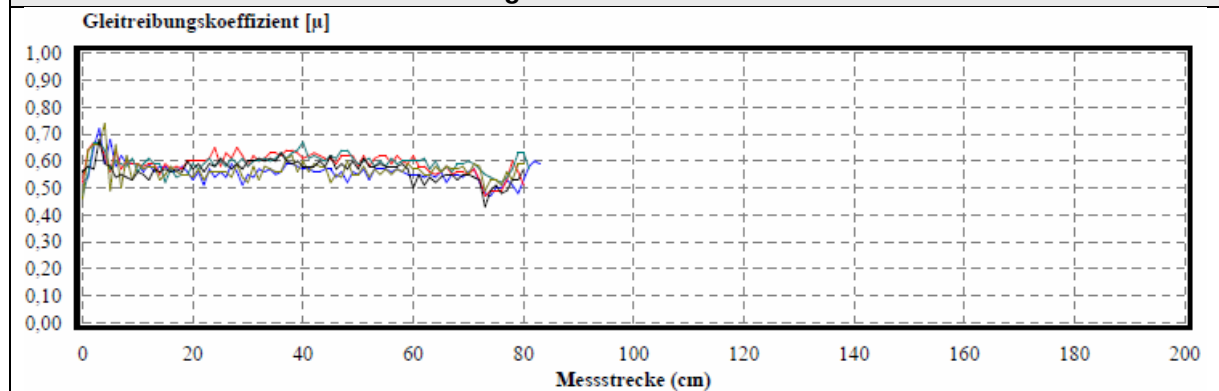


Diagram cross direction



### Evaluation

The tested laminate floor covering can be classified as **technical class DS** according to EN 14041.

Tested sample: 5

dynamic coefficient of friction [ $\mu$ ]		
Measurement	length direction	cross direction
1	0,57	0,50
2	0,60	0,51
<b>3</b>	<b>0,61</b>	<b>0,49</b>
<b>4</b>	<b>0,59</b>	<b>0,45</b>
<b>5</b>	<b>0,54</b>	<b>0,45</b>
<b>Mean value</b>	<b>0,58</b>	<b>0,47</b>

Diagram length direction

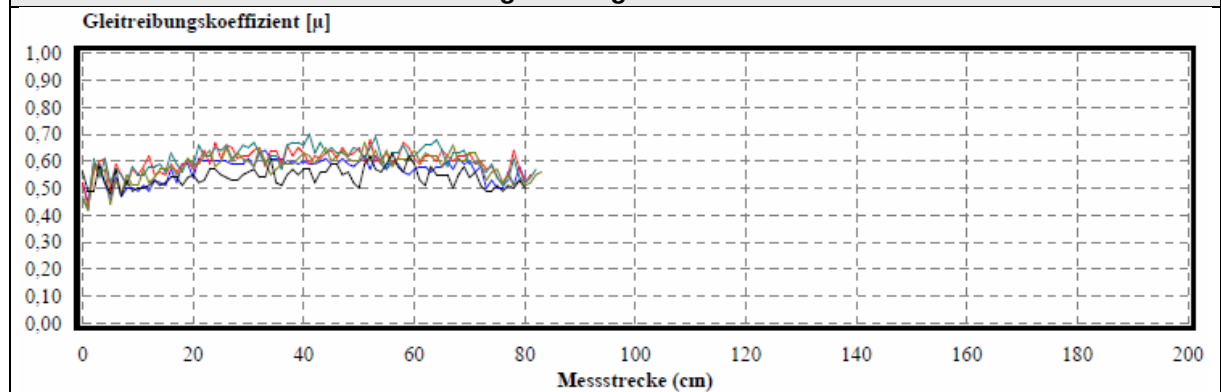
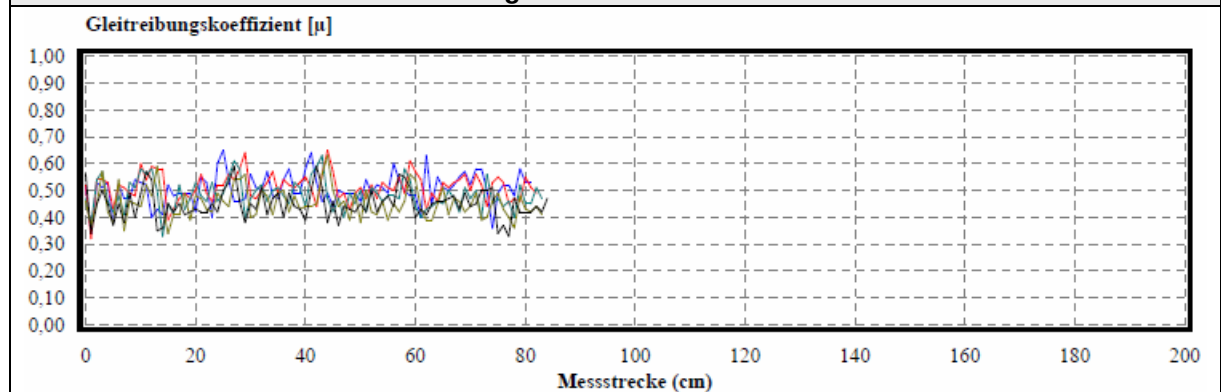


Diagram cross direction



### Evaluation

The tested laminate floor covering can be classified as **technical class DS** according to EN 14041.



Tested sample: 6

dynamic coefficient of friction [ $\mu$ ]		
Measurement	length direction	cross direction
1	0,59	0,56
2	0,57	0,56
<b>3</b>	<b>0,58</b>	<b>0,55</b>
<b>4</b>	<b>0,56</b>	<b>0,54</b>
<b>5</b>	<b>0,55</b>	<b>0,55</b>
<b>Mean value</b>	<b>0,56</b>	<b>0,55</b>

Diagram length direction

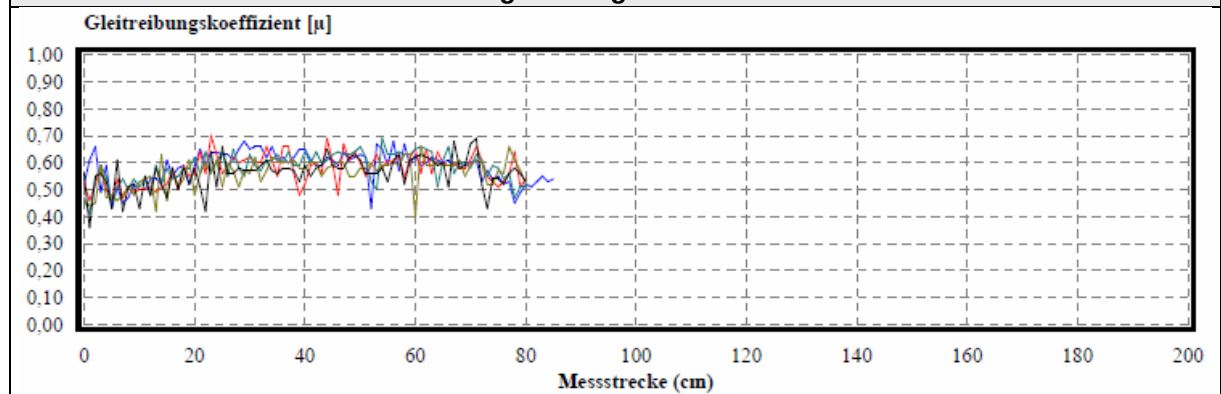
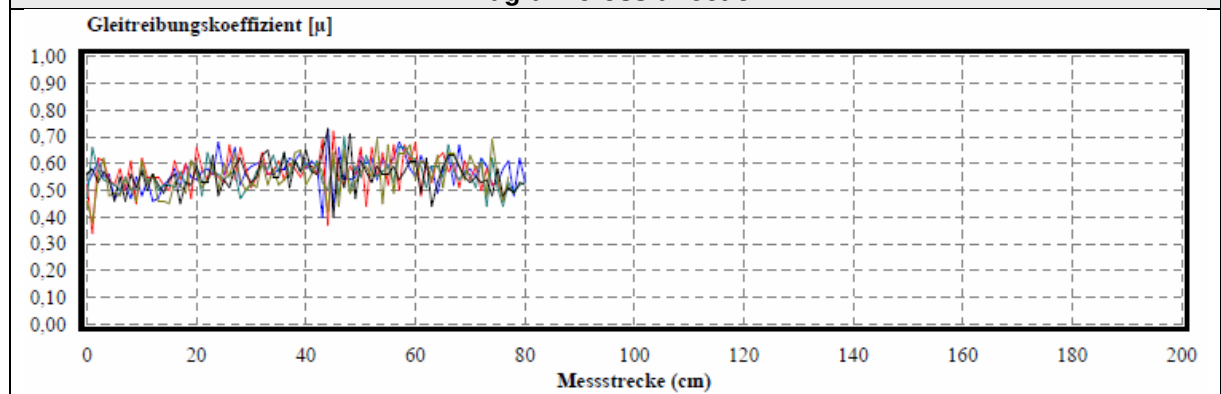


Diagram cross direction



### Evaluation

The tested laminate floor covering can be classified as **technical class DS** according to EN 14041.

Tested sample: 7

dynamic coefficient of friction [ $\mu$ ]		
Measurement	length direction	cross direction
1	0,62	0,61
2	0,66	0,61
<b>3</b>	<b>0,60</b>	<b>0,60</b>
<b>4</b>	<b>0,59</b>	<b>0,59</b>
<b>5</b>	<b>0,67</b>	<b>0,56</b>
<b>Mean value</b>	<b>0,62</b>	<b>0,58</b>

Diagram length direction

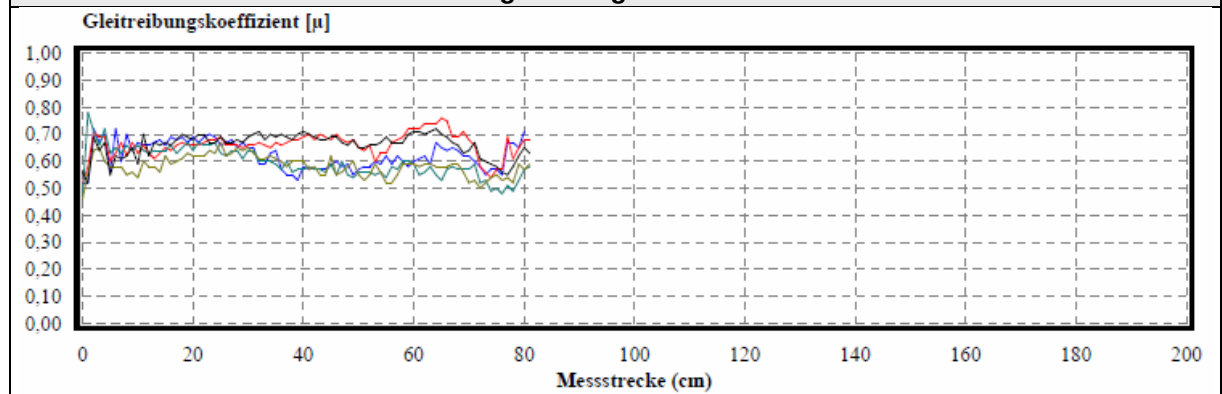
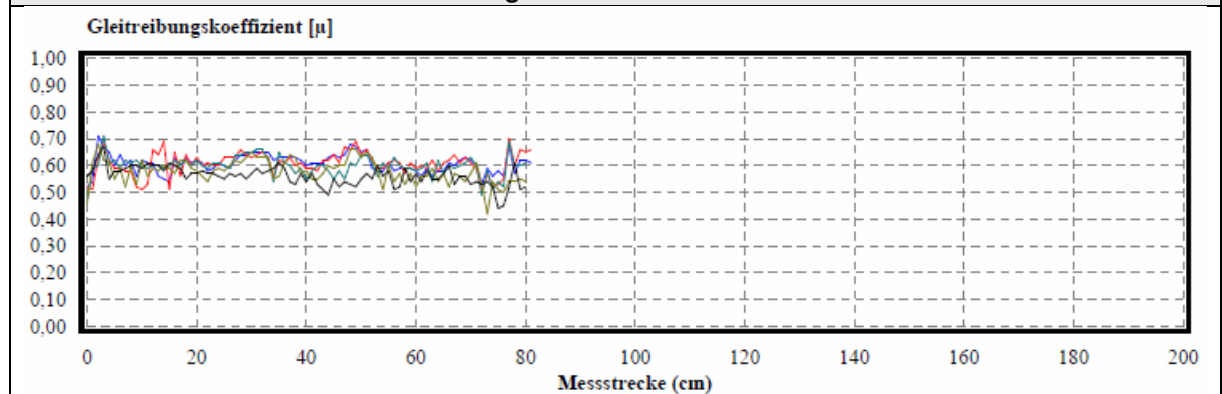


Diagram cross direction



### Evaluation

The tested laminate floor covering can be classified as **technical class DS** according to EN 14041.

Tested sample: 8

dynamic coefficient of friction [ $\mu$ ]		
Measurement	length direction	cross direction
1	0,63	0,56
2	0,60	0,53
<b>3</b>	<b>0,57</b>	<b>0,55</b>
<b>4</b>	<b>0,58</b>	<b>0,53</b>
<b>5</b>	<b>0,58</b>	<b>0,54</b>
<b>Mean value</b>	<b>0,58</b>	<b>0,54</b>

Diagram length direction

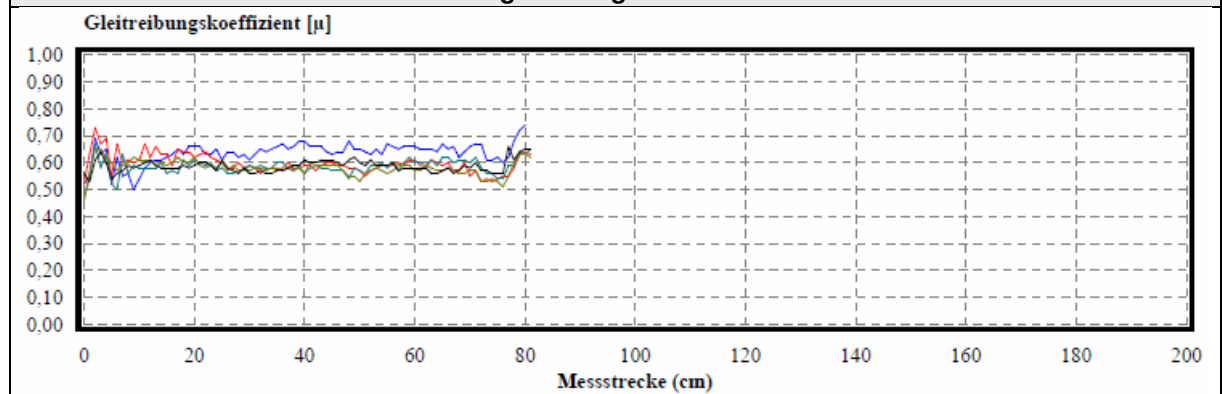
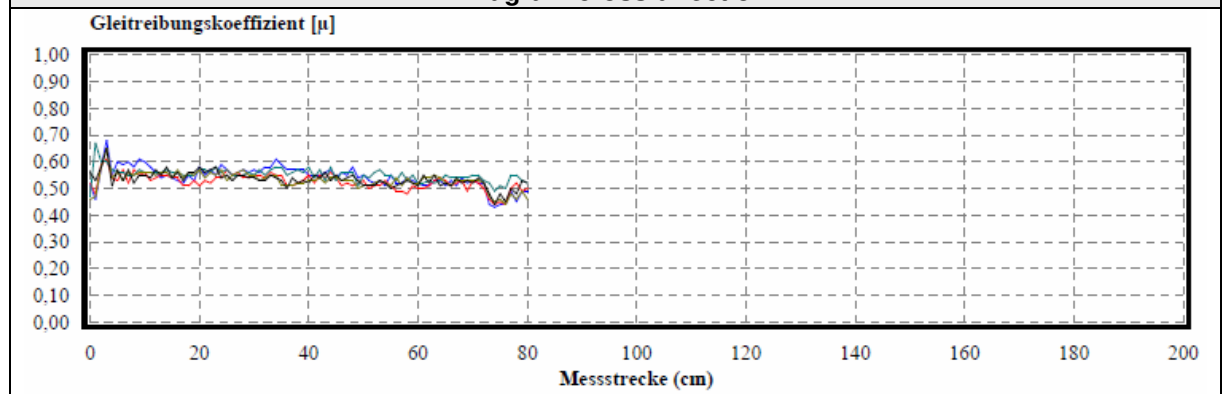


Diagram cross direction



### Evaluation

The tested laminate floor covering can be classified as **technical class DS** according to EN 14041.

Tested sample: 9

dynamic coefficient of friction [ $\mu$ ]		
Measurement	length direction	cross direction
1	0,59	0,59
2	0,62	0,59
<b>3</b>	<b>0,64</b>	<b>0,59</b>
<b>4</b>	<b>0,63</b>	<b>0,58</b>
<b>5</b>	<b>0,61</b>	<b>0,58</b>
<b>Mean value</b>	<b>0,63</b>	<b>0,58</b>

Diagram length direction

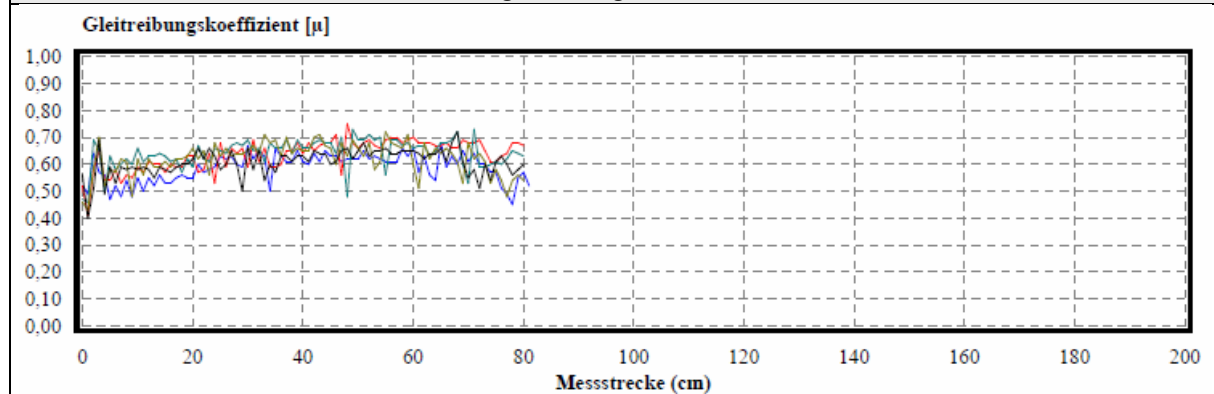
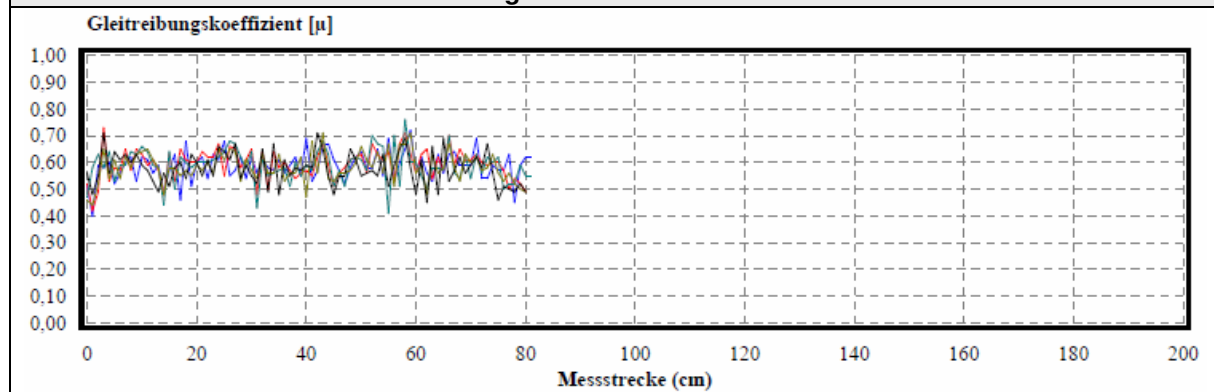


Diagram cross direction



### Evaluation

The tested laminate floor covering can be classified as **technical class DS** according to EN 14041.

Tested sample: 10

dynamic coefficient of friction [ $\mu$ ]		
Measurement	length direction	cross direction
1	0,54	0,53
2	0,54	0,54
3	0,53	0,55
4	0,54	0,55
5	0,55	0,55
<b>Mean value</b>	<b>0,54</b>	<b>0,55</b>

Diagram length direction

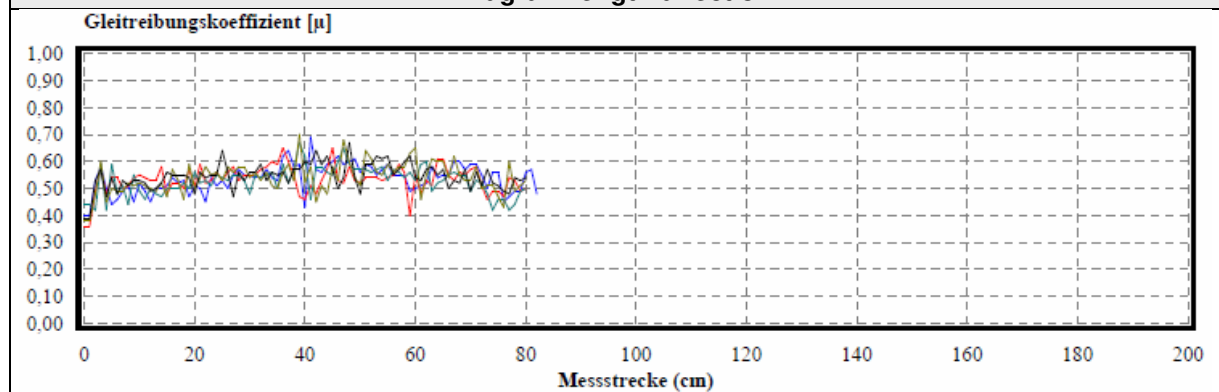
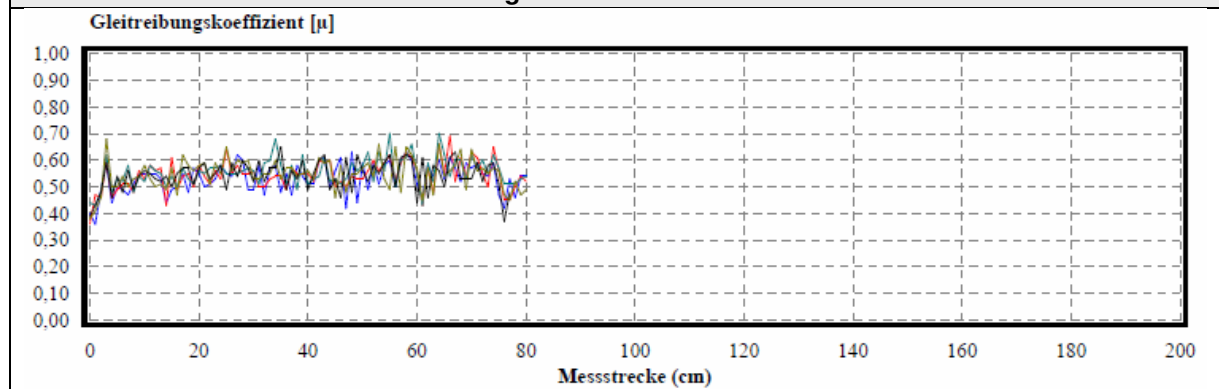


Diagram cross direction



## Evaluation

The tested laminate floor covering can be classified as **technical class DS** according to EN 14041.

Tested sample: 11

dynamic coefficient of friction [ $\mu$ ]		
Measurement	length direction	cross direction
1	0,47	0,49
2	0,48	0,51
<b>3</b>	<b>0,48</b>	<b>0,51</b>
<b>4</b>	<b>0,48</b>	<b>0,52</b>
<b>5</b>	<b>0,47</b>	<b>0,51</b>
<b>Mean value</b>	<b>0,48</b>	<b>0,51</b>

Diagram length direction

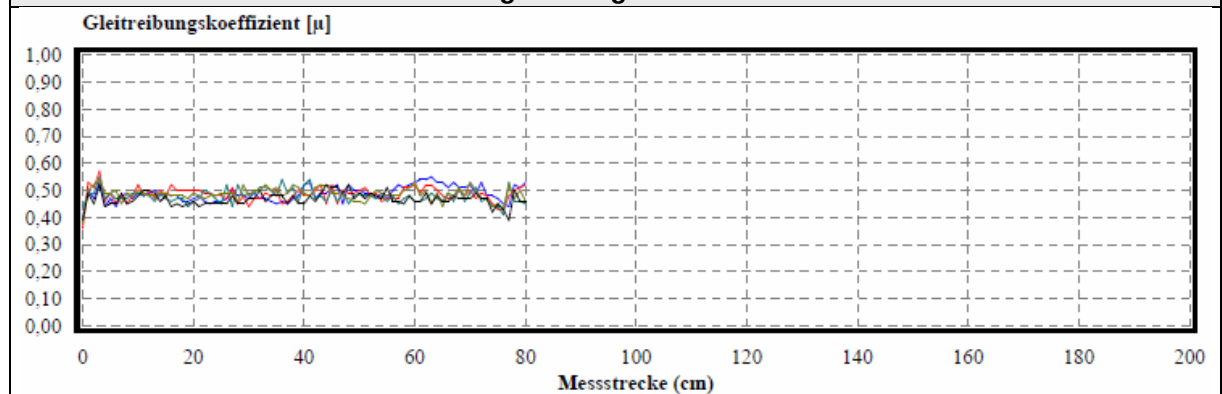
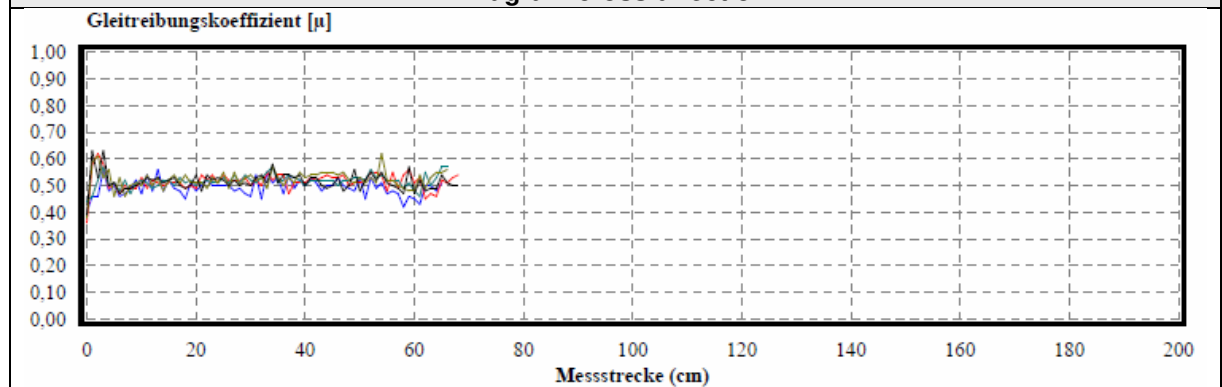


Diagram cross direction



### Evaluation

The tested laminate floor covering can be classified as **technical class DS** according to EN 14041.

Tested sample: 12

dynamic coefficient of friction [ $\mu$ ]		
Measurement	length direction	cross direction
1	0,63	0,50
2	0,53	0,50
<b>3</b>	<b>0,51</b>	<b>0,51</b>
<b>4</b>	<b>0,46</b>	<b>0,53</b>
<b>5</b>	<b>0,48</b>	<b>0,51</b>
<b>Mean value</b>	<b>0,48</b>	<b>0,52</b>

Diagram length direction

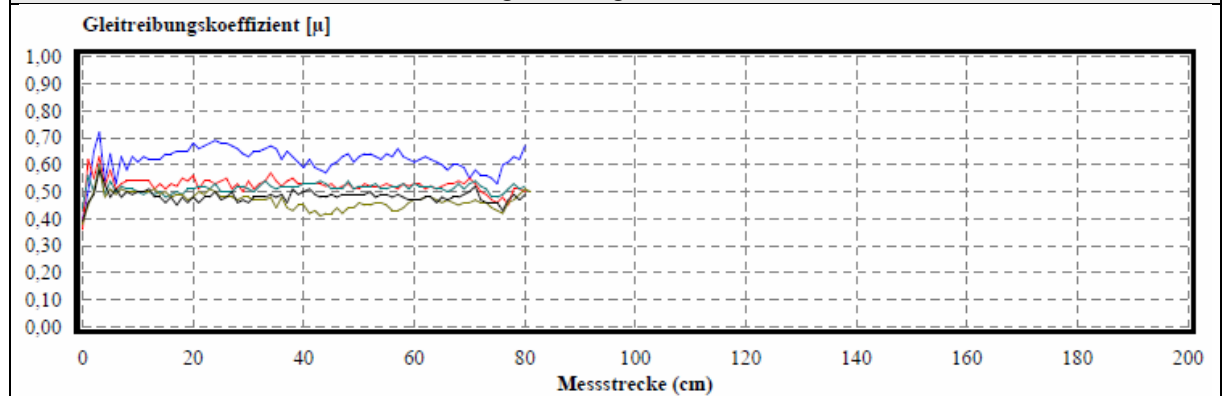
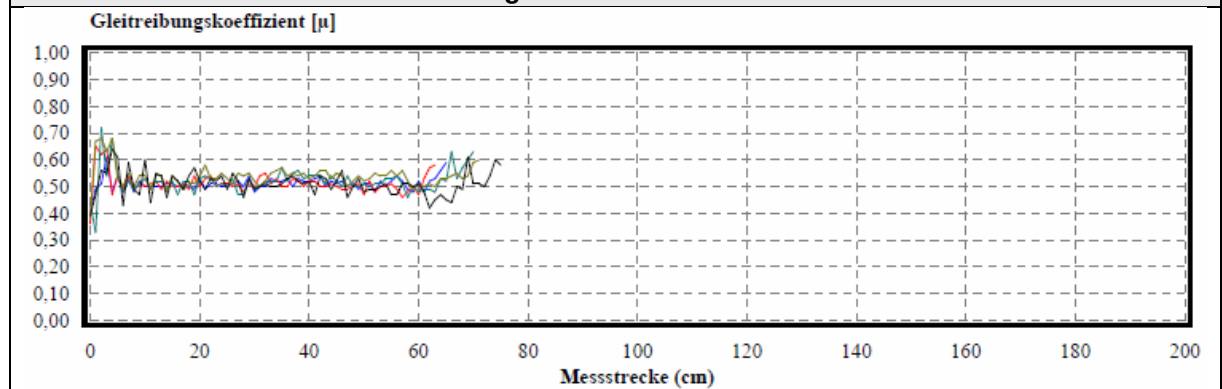


Diagram cross direction



### Evaluation

The tested laminate floor covering can be classified as **technical class DS** according to EN 14041.

Tested sample: 13

dynamic coefficient of friction [ $\mu$ ]		
Measurement	length direction	cross direction
1	0,62	0,65
2	0,66	0,66
<b>3</b>	<b>0,65</b>	<b>0,66</b>
<b>4</b>	<b>0,66</b>	<b>0,65</b>
<b>5</b>	<b>0,65</b>	<b>0,65</b>
<b>Mean value</b>	<b>0,65</b>	<b>0,65</b>

Diagram length direction

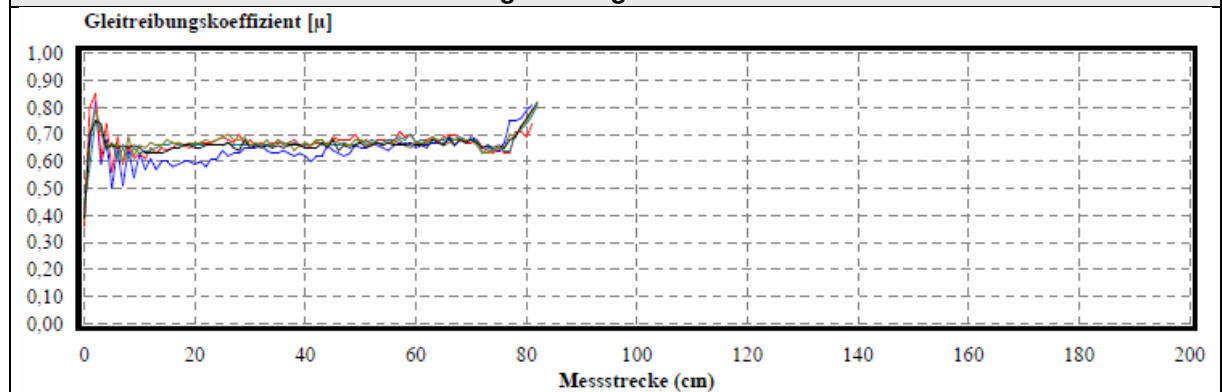
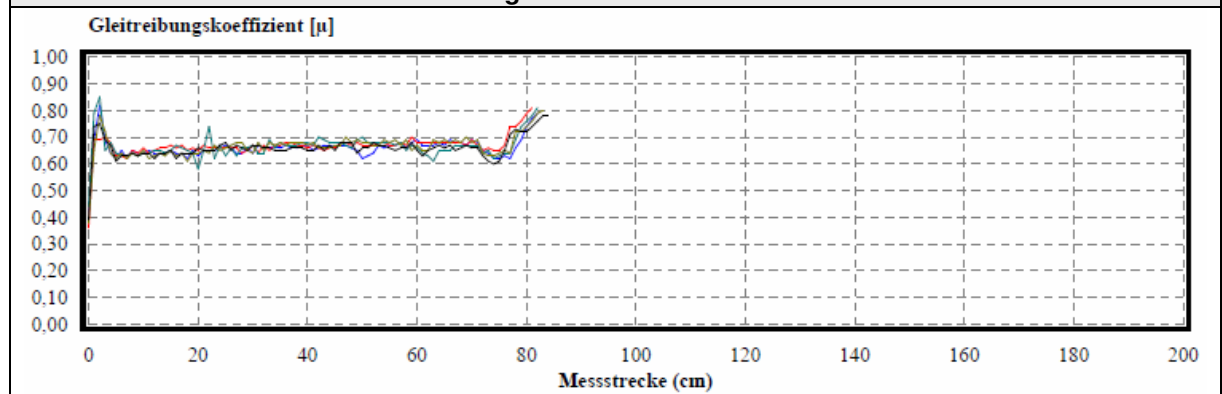


Diagram cross direction



### Evaluation

The tested laminate floor covering can be classified as **technical class DS** according to EN 14041.



### 3. Summary of results

Sample	Structure	Coefficient of friction	
		length	cross
1	„RS“	0,52	0,56
2	„HC“	0,53	0,48
3	„TC“	0,61	0,55
4	„TW“	0,55	0,58
5	„LM-S“	0,58	0,47
6	„DLM-R“	0,56	0,55
7	„RI“	0,62	0,58
8	„VS“	0,58	0,54
9	„HLM-R“	0,63	0,58
10	„HLM“	0,54	0,55
11	„LH“	0,48	0,51
12	„LO“	0,48	0,52
13	„TS“	0,65	0,65

#### Evaluation

Based on the performed tests the laminate floor coverings can be classified as **technical class DS** according to EN 14041.

## 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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Results of performed tests only refer to the sample material provided.

Without explicit written other agreement testing is destructive and the sample material is transferred to the property of ÖTI, which is entitled to freely decide on storage and disposal.

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### Quality management, Accreditation and Notification

This issue is a rewriting of report VN730 122479.1 dated 26.08.2018

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