

# TRU-STONE

## PREMIUM EUROPEAN SPC FLOORS

DIMENSIONS			
Thickness	5.00 mm · $t_{max} - t_{min} \leq 0.50$ mm		
Length	1219.2 mm · $l_{max} - l_{min} \leq 0.50$ mm		
Width	181.1 ± 0.10 mm · $w_{max} - w_{min} \leq 0.20$ mm		
TOLERANCE			
Squareness	EN 16511	≤ 0.20 mm	
Straightness	EN 16511	≤ 0.30 mm / m	
Flatness Crosswise	EN 16511	Concave: ≤ 0.15% · convex: ≤ 0.20%	
Flatness Lengthwise	EN 16511	Concave: ≤ 0.50% · convex: ≤ 1.00%	
Openings between Elements	EN 16511	Average: ≤ 0.15 mm · max: ≤ 0.20 mm	
Height Difference between Elements	EN 16511	Average: ≤ 0.10 mm · max: ≤ 0.15 mm	
TEST			
Abrasion Resistance Method B	EN 16511	≥ 3000 cycles	
Impact Resistance	EN 16511	≥ 1200 mm	
Micro Scratch Resistance	EN 16511	≤ MSR-A1	
Stain Resistance	Group 1 & 2	EN 16511	Grade 5
	Group 3	EN 16511	Grade 4
Castor Chair Test	ISO 4918	No change in appearance after 25.000 cycles	
Effect of Furniture Leg	EN 16511	No visible damage	
Thickness Swelling	EN 16511	No swelling	
Residual Indentation	EN 16511	≤ 0.20mm	
Locking Strength	EN 16511	$f_{10,2} \geq 1$ kN/m (length); $f_{50,2} \geq 1.5$ kN/m (width)	
Dimensional Stability	EN 16511	≤ 0.25 %	
ENVIRONMENT			
Emission of Formaldehyde	CDPH	PASS	
PHYSICAL BEHAVIOR			
Fire Behaviour	EN 13501-1	Bfl-s1	
Slide Resistance	EN 13893	DS	
Thermal Resistance	EN 12667	0.01 (m <sup>2</sup> K)/W	
Electrostatic Behaviour	EN 1815	Antistatic Floor Covering	
SOUND ABSORPTION QUALITIES			
Calculated Impact Insulation Class	ASTM E492-09	IIC 62	
Calculated Sound Transmission Class	ASTM E90-09	STC 60	

The data sheet is updated regularly to meet new technological standards. This version replaces all previous versions as well as those which are undated.  
 SPC RIGID CORE Flooring of floating installation, Level of use according to EN 16511: Class 32  
 FOR FLOORING TO BE USED IN LIVING AREAS AND COMMERCIAL PREMISES

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**TRUSA MERMER SANAYİ VE TİCARET LİMİTED  
ŞİRKETİ**  
TURANKÖY MAH. TURANKÖY 7 SOK. NO:1  
KESTEL / BURSA  
TURKEY  
21

TRUSTONE brand TS EN  
14041:2004+AC:2005+AC:2006 Resilient, Textile and  
Laminate Floor Coverings - Manufactured for general  
use in buildings conforming to the main features  
SPC Vinyl Flooring 4mm+1mm IXPE 0,55mm  
**18052021-DOP-01**

Reaction to fire classification : Bfl s 1

Pentachlorophenol : NPD



Formaldehyde : E1

Waterproof : NPD

Slip Resistance : DS

Static electrical charging : NPD

Thermal resistance : NPD

<b>Test report no.:</b> <i>Testrapport nr.:</i>	<b>89218997 001</b>	<b>Order No.:</b> <i>Opdracht nr.:</i>	218997	Page 1 of 5 <i>Pagina 1 van 5</i>
<b>Client Reference No.:</b> <i>Klantreferentie nr.:</i>	N/A	<b>Order date:</b> <i>Opdrachtdatum:</i>	18.05.2021	
<b>Client:</b> <i>Klant:</i>	TRUSA MERMER SAN. TIC. LTD. STİ., Turanköy Mah. Turanköy 7. Sok No: 1, KESTEL/BURSA, Turkey			
<b>Test item:</b> <i>Testvoorwerp:</i>	SPC Vinyl Floor Covering			
<b>Identification/ Type No.:</b> <i>Benaming / Type nr.:</i>	TRU-STONE SPC-CLICK Vinylflooring 4+1mm IXPE 0,55mm			
<b>Order content:</b> <i>Inhoud opdracht:</i>	Determination of selected parameters			
<b>Test specification:</b> <i>Testomschrijving:</i>	ISO 8302:1991 / EN 12667:2001, EN 13893:2002, EN 1815:2016 The determination of the thermal resistance, slip resistance and the assessment of static electrical propensity, walking test.			
<b>Date of sample receipt:</b> <i>Ontvangstdatum monster:</i>	31.05.2021			
<b>Test sample No.:</b> <i>Testproefstuk nr.:</i>	MT21-218997.01			
<b>Testing period:</b> <i>Testperiode:</i>	31.05.2021 - 29.06.2021			
<b>Place of testing:</b> <i>Testlocatie:</i>	Westervoortsedijk 73, 6827 AV Arnhem			
<b>Testing laboratory:</b> <i>Testlaboratorium:</i>	TÜV Rheinland Nederland B.V.			
<b>Test result*:</b> <i>Testresultaat*:</i>	See Other			
<b>tested by:</b> <i>getest door:</i>	<input checked="" type="checkbox"/> 			
<b>Date:</b> 30.06.2021 <i>Datum:</i>	Ondertekend door: Michiel van de Vlekkert	<b>Issue Date:</b> 30.06.2021 <i>Datum uitgave:</i>	Ondertekend door: Ellen Zwier	
<b>Position / functie:</b>	jr. Engineer	<b>Position / functie:</b>	Technician	
<b>Others /</b> <i>Andere:</i>	See individual test results.			
<b>Condition of the test item at delivery:</b> <i>Toestand van het test voorwerp bij ontvangst:</i>	Test item complete and undamaged			
* Legend:	P(ass) = passed a.m. test specification(s)	F(ail) = failed a.m. test specification(s)	N/A = not applicable	N/T = not tested
* Legenda:	P(ass) = voldoet aan test omschrijving	F(ail) = voldoet niet aan test omschrijving	N/A = niet van toepassing	N/T = niet getest
<b>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</b>				
<i>Dit testrapport heeft alleen betrekking op het voorgenoemde test voorwerp. Zonder toestemming van het testcentrum mag dit testrapport niet in delen worden vermenigvuldigd. Dit keuringsrapport geeft geen recht op het dragen van enig keurmerk.</i>				

Test report no.: 89218997 001  
Testrapport nr.:

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**Remarks**  
*Opmerkingen*

1	<p>The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system. Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request. For the influence of the measuring uncertainties on the results, reference is made to the validation of the respective methods.</p> <p><i>De apparatuur welke tijdens de gespecificeerde testperiode is gebruikt, is gekalibreerd volgens ons kalibratieprogramma. De apparatuur voldoet aan de eisen welke zijn opgenomen in de relevante normen. De traceerbaarheid van de gebruikte testapparatuurs is gewaarborgd door naleving van de voorschriften in ons kwaliteitsmanagementsysteem. Gedetailleerde informatie over testomstandigheden, apparatuur en meetonzekerheid is beschikbaar in het testlaboratorium en kan op verzoek worden verstrekt. Voor de invloed van de meetonzekerheden op de resultaten wordt verwezen naar de validatie van de respectievelijke methode c.q. verrichting</i></p>
2	<p>As contractually agreed, this document has been signed digitally only. TÜV Rheinland has not verified and is unable to verify which legal or other pertaining requirements are applicable for this document. Such verification is within the responsibility of the user of this document. Upon request by its client, TÜV Rheinland can confirm the validity of the digital signature by a separate document. Such request shall be addressed to our Sales department. An environmental fee for such additional service will be charged.</p> <p><i>Zoals contractueel overeengekomen is dit document enkel digitaal ondertekend. TÜV Rheinland heeft niet geverifieerd en kan niet verifiëren welke wettelijke of andere vereisten van toepassing zijn op dit document. Een dergelijke verificatie valt onder de verantwoordelijkheid van de gebruiker van het document. Op verzoek van de opdrachtgever kan TÜV Rheinland de geldigheid van de digitale handtekening bevestigen door een apart document. Een dergelijk verzoek moet worden gericht aan onze verkoopafdeling. Voor een dergelijke extra service zal een milieutoeslag in rekening worden gebracht.</i></p>
3	<p>Test clauses with remark of * are subcontracted to qualified subcontractors and described under the respective test clause in the report. Tests clauses marked with <sup>a</sup> are performed under ISO 17025 accreditation. Deviations of testing specification(s), test locations or customer requirements are listed in specific test clause in the report. No opinions or interpretation are included in this report. This test report consists of multiple pages and is only to be read as a whole. The number of pages can be seen in the header on the top right of each page, the report ends when the last page is reached. TÜV Rheinland Nederland B.V. is solely responsible for the content.</p> <p><i>Test onderdelen welke met * zijn gemarkeerd zijn uitbesteed aan gekwalificeerde onderaannemers en zijn beschreven in het respectievelijke test onderdeel van dit rapport. Test onderdelen welke met <sup>a</sup> zijn gemarkeerd zijn onder ISO 17025 accreditatie uitgevoerd. Afwijkingen van testspecificatie(s), testlocaties of klant eisen zijn vermeld in het van toepassing zijnde onderdeel in het rapport. Er zijn geen opinies en interpretaties opgenomen binnen het rapport. Dit rapport bestaat uit meerdere pagina's en dient als geheel gelezen te worden. Het aantal pagina's is rechtsboven in de koptekst van dit rapport vermeld en eindigt wanneer de laatste pagina is bereikt. TÜV Rheinland Nederland is als enige verantwoordelijk voor de inhoud van het rapport.</i></p>
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Testrapport nr.:

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**Product description**  
*Product omschrijving*

1	<b>Product details:</b> <i>Product details:</i>	Product name: TRU-STONE SPC-CLICK Vinylflooring 4+1mm IXPE 0,55 mm
2	<b>Other:</b> <i>Andere:</i>	Test sample(s), as well sample information, description, product details and intended usage was provided by customer.
3	<b>Test sample obtaining:</b> <i>Selectie van het proefstuk:</i>	<input checked="" type="checkbox"/> Sending by customer <input type="checkbox"/> Sampling by TÜV Rheinland Group <input type="checkbox"/> others:

Figure 1: Picture of the received sample (surface)



Figure 2: Picture of the received sample (back)



<b>Test report no.: 89218997 001</b> Testrapport nr.:			
<b>Clause</b> Deel	<b>Requirements - Tests /</b> Vereisten - Tests	<b>Measuring results – Remarks</b> Meetresultaten – Opmerkingen	<b>Result</b> Resultaat

1.1.	<b>Determination of thermal resistance (thermal conductivity)</b> ISO 8302:1991 and EN 12667:2001				
	Pre conditioning		23 ± 2°C and 50 ± 5% relative humidity		
	Conditioning period		≥ 24 h		
	Description of used method		Guarded hotplate, a sample is placed between a cold and a warm plate. The cold and the warm plate are kept at constant temperature. The amount of energy needed to keep the temperature of the warm and cold plate constant is an indication for the heat transmission.		
	Requirements according to EN 14041:2004/AC:2005		Thermal conductivity and resistance values shall be calculated or measured. For floor coverings its common to expressed as the 23 °C value of, either: - Thermal resistance, $R_{23}$ , in m <sup>2</sup> ·K/W, or alternatively - Thermal conductivity, $\lambda_{23}$ , in mW/m·K.		
	<b>Test result(s)</b>				
	Thermal resistance				
	Temperature		Temperature difference	Thermal resistance R in m <sup>2</sup> . K/W	
	R <sub>18</sub>	18 °C	10 K	0.034	
	R <sub>23</sub>	23 °C	10 K	0.034	
R <sub>28</sub>	28 °C	10 K	0.033		
Thermal conductivity				P <input type="checkbox"/> F <input type="checkbox"/> N/A <input checked="" type="checkbox"/> N/T <input type="checkbox"/>	
Temperature		Temperature difference	Thermal conductivity $\lambda$ in mW/m.K		
$\lambda_{18}$	18 °C	10 K	148.38		
$\lambda_{23}$	23 °C	10 K	150.82		
$\lambda_{28}$	28 °C	10 K	152.99		
Thermal resistance at 23°C, $R_{23}$ , (m <sup>2</sup> ·K/W)			<b>0.034</b>		

Test report no.: 89218997 001  
 Testrapport nr.:

Clause Deel	Requirements - Tests / Vereisten - Tests	Measuring results – Remarks Meetresultaten – Opmerkingen	Result Resultaat
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1.2.	<b>Determination of dynamic coefficient of friction on dry floor surfaces</b> EN 13893:2002		
	Remark	This result can also be used for: TRU-STONE SPC-CLICK Vinylflooring 4+1mm IXPE 0,30mm	
	Test conditions	23 ± 2°C and 50 ± 5% relative humidity	
	Conditioning period	≥ 24 days	
	Type of test location	Laboratory	
	Date of test	08.06.2021	
	Test conditions	Dry	
	Pre-treatment	None	
	Used slider	Leather/rubber combination	
	Requirements according to EN 14041:2004/AC:2005	≥ 0,30 μ	
	<b>Test result(s)</b>		
		Length direction	Width direction
Measurement 1 (μ)	0.44	0.47	
Measurement 2 (μ)	0.42	0.44	
Measurement 3 (μ)	0.41	0.42	
Measurement 4 (μ)	0.41	0.38	
Measurement 5 (μ)	0.39	0.37	
Average measurement 3, 4 and 5 (μ)	<b>0.40</b>	<b>0.39</b>	

1.3.	<b>Assessment of static electrical propensity</b> EN 1815:2016, method A		
	Test conditions	23 ± 1°C and 25 ± 2% relative humidity	
	Conditioning period	≥ 7 days	
	Sole material	Rubber	
	Installation system (top to bottom)	Test specimen Earthed metal plate	
	Requirement according EN 14041:2004/AC:2005	Antistatic floor coverings: ≤ 2.0 kV	
	<b>Test result(s)</b>		
	Measurement 1 (kV)	0.6	P <input checked="" type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> N/T <input type="checkbox"/>
	Measurement 2 (kV)	0.6	
	Measurement 3 (kV)	0.6	
Average result (kV)	<b>0.6</b>		
Assessment:	Antistatic		

5190243IB02

2021160410



Test Result : B<sub>fl</sub>, s1

Report No : 2021160410

Applicant : TRUSA MERMER SAN. TİC. LTD. ŞTİ.

Adress : Turanköy Mah. Turanköy 7. Sokak No:1/4 KESTEL/BURSA

Contact Person : Erol UZUNCA

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Sample Accepted on : 16.03.2021

Report Date : 24.03.2021

Total Number of Pages : 6 (Pg)

Sample ID : TRU-STONE / ROKPLANK SPC Rigid Core Vinyl Flooring  
(0,3mm/0,55mm)

	TEST	METHOD	RESULT
*	Fire classification of construction products and building elements-Part 1: Classification using test data from reaction to fire tests.	EN 13501-1	PASS
			B <sub>fl</sub> s1

Results: Flame spread is not highly flammable, no melt droplets, smoke formation has been.



Seal



Customer Representative  
Hasan KUTLU



Laboratory Manager  
Hava Sarıaydın



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**Environment**

The requirements and standards apply to equipment intended for use in:

X	Residential (domestic) environment
X	Commercial and light-industrial environment
X	Industrial environment
X	Medical environment

**TS EN ISO 13501-1: Building products and structural elements, fire classification. Part 1:  
Classification by using data obtained from the behavior tests against fire****Scope**

This standard covers the behavior of all building products, including products used in combination with structural elements, against flame.

**Classes of reaction to fire performance for floorings (B<sub>fl</sub>)**

Class	Test method	Classification criteria	Additional classification
B <sub>fl</sub>	EN ISO 9239-1 <sup>a</sup> and	Critical flux <sup>b</sup> ≥ 8,0 kW/m <sup>2</sup>	Smoke production <sup>c</sup>
	EN ISO 11925-2 <sup>d</sup> : Exposure = 15 s	F <sub>s</sub> ≤ 150 mm within 20 s	

<sup>a</sup> Test duration = 30 min.

<sup>b</sup> Critical flux is defined as the radiant flux at which the flame extinguishes or the radiant flux after a test period of 30 min, whichever is the lower (i.e. the flux corresponding with the furthest extent of spread of flame).

<sup>c</sup>s1 = Smoke ≤ 750 % minutes;

s2 = not s1.

<sup>d</sup> Under conditions of surface flame attack and, if appropriate to the end use application of the product, edge flame attack

**EN ISO 9239-1: Reaction to fire tests for floorings—Part 1: Determination of the burning behaviour using a radiant heat source****Scope**

This part of ISO 9239 describes a method for evaluating the reaction to fire versus airflow and the propagation of flame in horizontally arranged floor coverings exposed to a heat flow gradient in a test chamber and ignited by a pilot flame. .

This test method applies to all floor coverings such as: textile floor coverings, cork, wood, rubber and plastic coverings as well as coverings. The results obtained with this test method show the fire behavior of the entire tested floor covering, including any carrier plate.

**Procedure**

At intervals of 10 minutes from the start of the test and when the flame is extinguished, the burning distances shall be measured as the distance rounded to the nearest 10 mm between the flame front and the sample zero line. All special observations should be recorded, such as flickering, melting, bubble formation, duration and location of the glow after the flame is extinguished, burning on the carrier plate.

**Test Results**

Sample	Furthest extent of spread of flame(mm)	Critical Heat Flux (CHF or HF-30) kW/m <sup>2</sup>	Comments and Observation
# 1	155	10.06	There were cracks on the surface in the direction of the flame source applied in the sample, but no flame was observed.
# 2	160	10.12	
# 3	165	10.14	
The mean value for the critical heat flux (CHF and/or HF-30) of the three specimens from the same orientation: 10.11 kW/m <sup>2</sup>			

**EN ISO 11925-2: Reaction to fire tests — Ignitability of building products subjected to direct impingement of flame — Part 2: Single-flame source test**

**Scope**

This part of ISO 11925 specifies a method of test for determining the ignitability of products by direct small flame impingement under zero impressed irradiance using vertically oriented test specimens.

**Procedure**

There are two flame application times, either 15 seconds or 30 seconds. The starting time of the test depends on the application of the flame.

**Conditioning**

Temperature (°C)	23 ± 2
Relative Humidity (%)	50 ± 5

**Test Results**

Ignition Position	Face Ignition and Edge ignition
Flame Application Time	15s

Expression of results	Results					
	Face Ignition			Edge ignition		
# Sample No	#1	#2	#3	#4	#5	#6
Whether ignition occurs (Yes/No)	No	No	No	Yes	Yes	Yes
Whether the flame tip reaches 150 mm above the flame application point, and the time at which this occurs (No/Time)	No	No	No	No	No	No
Whether ignition of the filter paper occurs (Yes/No)	No	No	No	No	No	No

Classification of Air Duct based on fire behavior:

**B<sub>fl</sub>**

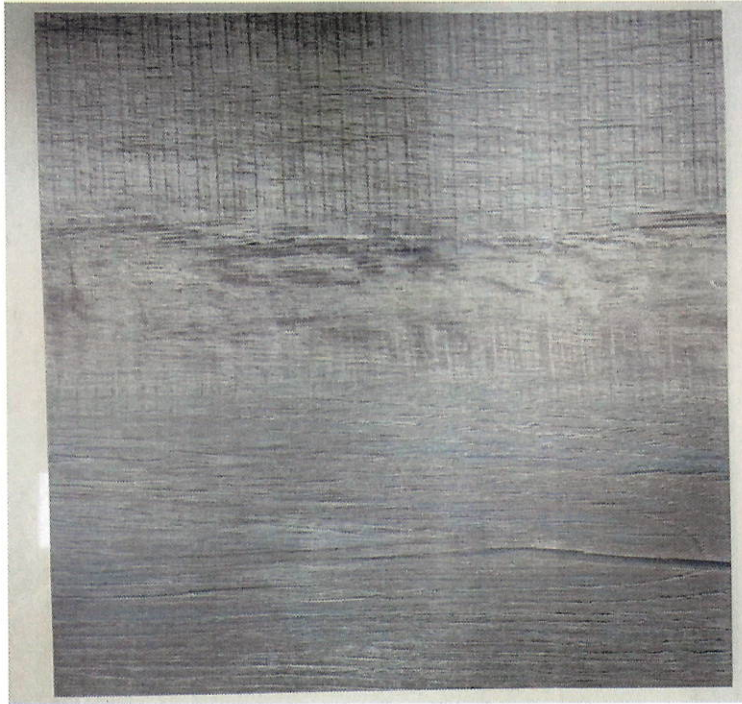
Additional classification for smoke formation:

**s1**

**Reaction to fire for SPC Rigid Core Vinyl Flooring**

<u>Flammability Behavior</u>	<u>Smoke</u>	
B <sub>fl</sub>	s	1

**SAMPLE IMAGE**



**\*\*\*\* End Of Report \*\*\*\***