



SYNPO, akciová společnost S.K. Neumanna 1316, Zelené předměstí 532 07 Pardubice, Czech republic

Department of Evaluation and Testing, Testing Laboratory N° 1105.2 accredited by ČIA according to ČSN EN ISO/IEC 17025

TEST REPORT T 248/1

Name and address of client	Tremco illbruck s.r.o. Úvalská 737/34, 100 00 Praha 10
Identification and description of test item	SP525 Těsnící tmel SPX Těsnící spárový tmel (Sealing putty)
Test procedure/ method	APP 17 (ČSN EN ISO 2812-1, ČSN EN ISO 2812-2, ČSN EN ISO 2812-3, VDA 621-412, TKP Kapitola 19, příloha19.B.P9, Režim I)
	APP 01 (ČSN EN ISO 4628-1, ČSN EN ISO 4628-2, ČSN EN ISO 4628-3, ČSN EN ISO 4628-4, ČSN EN ISO 4628- 5, ČSN EN ISO 4628-6, ČSN EN ISO 4628-8, ČSN EN ISO 10289)
Date of receipt of test item	August, 1, 2011
Registration number	11 0297
Date of performance of test	2011/03/08 - 2011/23/08
Tested by	Inka Černíková
Test report prepared by	František Herrmann, Ph.D.

This test report contains 11 pages and 1 annex.

Oddělení hodnocení a zkoušení da zkoušení

In Pardubice, on August, 31, 2011

Vladimír Špaček, Ph.D. Head of Department

The results of tests concern only the object to be tested. This report does not mean an approval of the product.

The test report can be reproduced only as a whole after written approval of the testing laboratory and the company ordering.

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The number of enclosures: 1

Sample specification



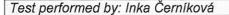
Sample name:	SP525 Těsnící tmel SPX
Producer:	Tremco illbruck s.r.o. Úvalská 737/34, Praha 10, Czech republic
Sample lab code:	11 0297

ČSN EN ISO 2812-3: Paints and varnishes - Determination of resistance to liquids - Part 3: Method using an absorbent medium

ČSN EN ISO 4628 - Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 1: General introduction and designation system

	Exposure time 10 minutes				
Test	Blistering	Cracking	Flaking	Designation of intensity of uniform changes in appearance of the coating	
liquid	ČSN EN ISO 4628/2	ČSN EN ISO 4628/4	ČSN EN ISO 4628/5	ČSN EN ISO 4628/1	
	degree	degree	degree	verbal assessment	

Gasoline unleaded	1	0 (S0)	0 (S0)	0 (S0)	Considerable, i.e. pronounced change of surface colour, brownish
Diesel fuel	2	0 (S0)	0 (S0)	0 (S0)	Considerable, i.e. pronounced change of surface colour, brownish
Engine oil	3	0 (S0)	0 (S0)	0 (S0)	-
Brake fluid	4	0 (S0)	0 (S0)	0 (S0)	-
H ₂ SO ₄ (5%)	5	0 (S0)	0 (S0)	0 (S0)	-
HCl (10%)	6	3 (S5)	0 (S0)	0 (S0)	Moderate, i.e. very clearly perceptible change of surface gloss, strongly etched layer, blisters
NaOH (5%)	7	3 (S5)	0 (S0)	0 (S0)	Moderate, i.e. very clearly perceptible change of surface gloss, matt, blisters
NaCl (10%)	8	0 (S0)	0 (S0)	0 (S0)	_
Coolant (Fridex)	9	0 (S0)	0 (S0)	0 (S0)	-
Detergent (Jar)	10	0 (S0)	0 (\$0)	0 (S0)	-
Distilled water	11	0 (S0)	0 (S0)	0 (S0)	-



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Sample specification



Sample name:	SP525 Těsnící tmel SPX
Producer:	Tremco illbruck s.r.o. Úvalská 737/34, Praha 10, Czech republic
Sample lab code:	11 0297

ČSN EN ISO 2812-3: Paints and varnishes - Determination of resistance to liquids - Part 3: Method using an absorbent medium

ČSN EN ISO 4628 - Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 1: General introduction and designation system

Test	Exposure time 1 hour				
	Blistering	Cracking	Flaking	Designation of intensity of uniform changes in appearance of the coating	
liquid	ČSN EN ISO 4628/2	ČSN EN ISO 4628/4	ČSN EN ISO 4628/5	ČSN EN ISO 4628/1	
	degree	degree	degree	verbal assessment	

Gasoline unleaded	1	0 (S0)	0 (S0)	0 (S0)	Considerable, i.e. pronounced change of surface colour, brownish
Diesel fuel	2	0 (S0)	0 (S0)	0 (S0)	Considerable, i.e. pronounced change of surface colour, brownish
Engine oil	3	0 (S0)	0 (S0)	0 (S0)	Very slight, just perceptible change of surface colour, brownish
Brake fluid	4	0 (S0)	0 (S0)	0 (S0)	Moderate, i.e. very clearly perceptible change of surface gloss
H ₂ SO ₄ (5%)	5	0 (S0)	0 (S0)	0 (S0)	Very slight change of surface gloss, etched layer
HCl (10%)	6	5 (S5)	0 (S0)	0 (S0)	Very marked change of surface gloss, strongly etched layer, blisters
NaOH (5%)	7	5 (S5)	0 (S0)	0 (S0)	Very marked change of surface gloss, matt, blisters
NaCl (10%)	8	0 (S0)	0 (S0)	0 (S0)	-
Coolant (Fridex)	9	0 (S0)	0 (S0)	0 (S0)	Very slight change of surface colour, bluish
Detergent (Jar)	10	0 (S0)	0 (S0)	0 (S0)	-
Distilled water	11	0 (S0)	0 (S0)	0 (S0)	-

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The number of enclosures: 1

Sample specification



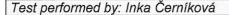
Sample name:	SP525 Těsnící tmel SPX
Producer:	Tremco illbruck s.r.o. Úvalská 737/34, Praha 10, Czech republic
Sample lab code:	11 0297

ČSN EN ISO 2812-3: Paints and varnishes - Determination of resistance to liquids - Part 3: Method using an absorbent medium

ČSN EN ISO 4628 - Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 1: General introduction and designation system

.2	Exposure time 3 hours				
Test	Blistering	Cracking	Flaking	Designation of intensity of uniform changes in appearance of the coating	
liquid	ČSN EN ISO 4628/2	ČSN EN ISO 4628/4	ČSN EN ISO 4628/5	ČSN EN ISO 4628/1	
	degree	degree	degree	verbal assessment	

Gasoline unleaded	1	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface colour, brownish
Diesel fuel	2	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface colour, brownish
Engine oil	3	0 (S0)	0 (S0)	0 (S0)	Very slight, just perceptible change of surface colour, brownish
Brake fluid	4	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface gloss
H ₂ SO ₄ (5%)	5	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface gloss, etched layer
HCl (10%)	6	5 (S5)	0 (S0)	0 (S0)	Very marked change of surface gloss, strongly etched layer, blisters
NaOH (5%)	7	5 (S5)	0 (S0)	0 (S0)	Very marked change of surface gloss, matt, blisters
NaCl (10%)	8	0 (S0)	0 (S0)	0 (S0)	-
Coolant (Fridex)	9	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface colour, bluish
Detergent (Jar)	10	0 (S0)	0 (S0)	0 (S0)	-
Distilled water	11	0 (S0)	0 (S0)	0 (S0)	-



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Sample specification



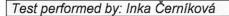
Sample name:	SP525 Těsnící tmel SPX
Producer:	Tremco illbruck s.r.o. Úvalská 737/34, Praha 10, Czech republic
Sample lab code:	11 0297

ČSN EN ISO 2812-3: Paints and varnishes -- Determination of resistance to liquids - Part 3: Method using an absorbent medium

ČSN EN ISO 4628 - Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 1: General introduction and designation system

		Exposure time 5 hours				
Test	Blistering	Cracking	Flaking	Designation of intensity of uniform changes in appearance of the coating		
liquid	ČSN EN ISO 4628/2	ČSN EN ISO 4628/4	ČSN EN ISO 4628/5	ČSN EN ISO 4628/1		
2.0	degree	degree	degree	verbal assessment		

Gasoline unleaded	1	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface colour, brownish
Diesel fuel	2	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface colour, brownish
Engine oil	3	0 (S0)	0 (S0)	0 (S0)	Very slight, just perceptible change of surface colour, brownish
Brake fluid	4	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface gloss
H ₂ SO ₄ (5%)	5	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface gloss, etched layer
HCl (10%)	6	5 (S5)	0 (S0)	0 (80)	Very marked change of surface gloss, strongly etched layer, blisters
NaOH (5%)	7	5 (S5)	0 (S0)	0 (S0)	Very marked change of surface gloss, matt, blisters
NaCl (10%)	8	0 (S0)	0 (S0)	0 (S0)	-
Coolant (Fridex)	9	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface colour, bluish
Detergent (Jar)	10	0 (S0)	0 (S0)	0 (S0)	-
Distilled water	11	0 (S0)	0 (S0)	0 (S0)	-



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Sample specification



Sample name:	SP525 Těsnící tmel SPX
Producer:	Tremco illbruck s.r.o. Úvalská 737/34, Praha 10, Czech republic
Sample lab code:	11 0297

ČSN EN ISO 2812-3: Paints and varnishes -- Determination of resistance to liquids - Part 3: Method using an absorbent medium

ČSN EN ISO 4628 - Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 1: General introduction and designation system

			Exposure ti	me 24 hours
Test	Blistering	Cracking	Flaking	Designation of intensity of uniform changes in appearance of the coating
liquid	ČSN EN ISO 4628/2	ČSN EN ISO 4628/4	ČSN EN ISO 4628/5	ČSN EN ISO 4628/1
	degree	degree	degree	verbal assessment

Gasoline unleaded	1	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface colour, brownish
Diesel fuel	2	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface colour, brownish
Engine oil	3	0 (S0)	0 (S0)	0 (S0)	Slight, clearly perceptible change of surface colour, brownish
Brake fluid	4	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface gloss
H ₂ SO ₄ (5%)	5	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface gloss, etched layer
HCl (10%)	6	5 (S5)	0 (S0)	0 (S0)	Very marked change of surface gloss, strongly etched layer, blisters
NaOH (5%)	7	5 (S5)	0 (S0)	0 (S0)	Very marked change of surface gloss, matt, blisters
NaCl (10%)	8	0 (S0)	0 (S0)	0 (S0)	-
Coolant (Fridex)	9	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface colour, bluish
Detergent (Jar)	10	0 (S0)	0 (S0)	0 (S0)	-
Distilled water	11	0 (S0)	0 (S0)	0 (S0)	Slight, clearly perceptible change of surface gloss – semi-matt

Test performed by: Inka Černíková

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Sample specification



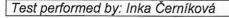
Sample name:	SP525 Těsnící tmel SPX
Producer:	Tremco illbruck s.r.o. Úvalská 737/34, Praha 10, Czech republic
Sample lab code:	11 0297

ČSN EN ISO 2812-3: Paints and varnishes - Determination of resistance to liquids - Part 3: Method using an absorbent medium

ČSN EN ISO 4628 - Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 1: General introduction and designation system

			Exposure ti	me 72 hours
Test	Blistering	Cracking	Flaking	Designation of intensity of uniform changes in appearance of the coating
liquid	ČSN EN ISO 4628/2	ČSN EN ISO 4628/4	ČSN EN ISO 4628/5	ČSN EN ISO 4628/1
	degree	degree	degree	verbal assessment

Gasoline unleaded	1	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface colour, brownish
Diesel fuel	2	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface colour, brownish
Engine oil	3	0 (S0)	0 (S0)	0 (S0)	Considerable, i.e. pronounced change of surface colour, brownish
Brake fluid	4	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface gloss
H ₂ SO ₄ (5%)	5	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface gloss, etched layer
HCl (10%)	6	5 (S5)	0 (S0)	0 (S0)	Very marked change of surface gloss, strongly etched layer, blisters
NaOH (5%)	7	5 (S5)	0 (S0)	0 (S0)	Very marked change of surface gloss, matt, blisters
NaCl (10%)	8	0 (S0)	0 (S0)	0 (S0)	Very slight, i.e. just perceptible change of surface gloss, semi-matt
Coolant (Fridex)	9	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface colour, bluish
Detergent (Jar)	10	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface colour - yellowish and gloss - semi-matt
Distilled water	11	0 (S0)	0 (S0)	0 (S0)	Slight, clearly perceptible change of surface gloss – semi-matt



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Page number / Total number of pages: 8/11

The number of enclosures: 1

Sample specification



Sample name:	SP525 Těsnící tmel SPX
Producer:	Tremco illbruck s.r.o. Úvalská 737/34, Praha 10, Czech republic
Sample lab code:	11 0297

ČSN EN ISO 2812-3: Paints and varnishes -- Determination of resistance to liquids - Part 3: Method using an absorbent medium

ČSN EN ISO 4628 - Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 1: General introduction and designation system

Test liquid	Exposure time 120 hours				
	Blistering	Cracking	Flaking	Designation of intensity of uniform changes in appearance of the coating	
	ČSN EN ISO 4628/2	ČSN EN ISO 4628/4	ČSN EN ISO 4628/5	ČSN EN ISO 4628/1	
	degree	degree	degree	verbal assessment	

Gasoline unleaded	1	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface colour, brownish
Diesel fuel	2	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface colour, brownish
Engine oil	3	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface colour, brownish
Brake fluid	4	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface gloss
H ₂ SO ₄ (5%)	5	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface gloss, etched layer
HCl (10%)	6	5 (S5)	0 (S0)	0 (S0)	Very marked change of surface gloss, strongly etched layer, blisters
NaOH (5%)	7	5 (S5)	0 (S0)	0 (S0)	Very marked change of surface gloss, matt, blisters
NaCl (10%)	8	0 (S0)	0 (80)	0 (80)	Very slight, i.e. just perceptible change of surface gloss, semi-matt
Coolant (Fridex)	9	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface colour, bluish
Detergent (Jar)	10	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface colour - yellowish and gloss - semi-matt
Distilled water	11	0 (S0)	0 (S0)	0 (S0)	Slight, clearly perceptible change of surface gloss – semi-matt

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Page number / Total number of pages: 9/11

The number of enclosures: 1

Sample specification



Sample name:	SP525 Těsnící tmel SPX
Producer:	Tremco illbruck s.r.o. Úvalská 737/34, Praha 10, Czech republic
Sample lab code:	11 0297

ČSN EN ISO 2812-3: Paints and varnishes -- Determination of resistance to liquids - Part 3: Method using an absorbent medium

ČSN EN ISO 4628 - Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 1: General introduction and designation system

Test		F	Exposure tim	ne 240 hours
	Blistering	Cracking	Flaking	Designation of intensity of uniform changes in appearance of the coating
liquid	ČSN EN ISO 4628/2	ČSN EN ISO 4628/4	ČSN EN ISO 4628/5	ČSN EN ISO 4628/i
	degree	degree	degree	verbal assessment

Gasoline unleaded	1	0 (S0)	0 (S0)	0 (S0) Very marked change of surface colour, brown		
Diesel fuel	2	0 (S0)	0 (S0)	0 (S0) Very marked change of surface colour, brown		
Engine oil	3	0 (S0)	0 (S0)	0 (S0) Very marked change of surface colour, brown		
Brake fluid	4	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface gloss	
H ₂ SO ₄ (5%)	5	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface gloss, etched layer	
HCl (10%)	6	5 (S5)	0 (S0)	0 (S0) Very marked change of surface gloss, strong etched layer, blisters		
NaOH (5%)	7	5 (S5)	0 (S0)	0 (S0) Very marked change of surface gloss, m blisters		
NaCl (10%)	8	0 (S0)	0 (S0)	0 (S0)	Very slight, i.e. just perceptible change of surface gloss, semi-matt	
Coolant (Fridex)	9	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface colour, bluish	
Detergent (Jar)	10	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface colour - yellowish and gloss - semi-matt	
Distilled water	11	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface gloss – semi- matt	

Test performed by: Inka Černíková

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Page number / Total number of pages: 10/11

The number of enclosures: 1

Sample specification



Sample name:	SP525 Těsnící tmel SPX					
Producer:	Tremco illbruck s.r.o. Úvalská 737/34, Praha 10, Czech republic					
Sample lab code:	11 0297					

ČSN EN ISO 2812-3: Paints and varnishes - Determination of resistance to liquids - Part 3: Method using an absorbent medium

ČSN EN ISO 4628 - Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 1: General introduction and designation system

Test liquid	Exp	Exposure time 240 hours + regeneration 24 hours					
	Blistering	Cracking	Flaking	Designation of intensity of uniform changes in appearance of the coating			
	ČSN EN ISO 4628/2	ČSN EN ISO 4628/4	ČSN EN ISO 4628/5	ČSN EN ISO 4628/1			
	degree	degree	degree	verbal assessment			

Gasoline unleaded	1	0 (80)	0 (S0)	0 (S0)	Very marked change of surface colour, brownish	
Diesel fuel	2	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface colour, browning	
Engine oil	3	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface colour, brownish	
Brake fluid	4	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface gloss	
H ₂ SO ₄ (5%)	5	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface gloss, etched layer	
HCl (10%)	6	5 (S5)	0 (S0)	0 (S0)	Very marked change of surface gloss, strongl etched layer, blisters	
NaOH (5%)	7	5 (S5)	0 (S0)	0 (S0)	Very marked change of surface gloss, matt, blisters	
NaCl (10%)	8	0 (S0)	0 (S0)	0 (S0)	Very slight, i.e. just perceptible change of surface gloss, semi-matt	
Coolant (Fridex)	9	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface colour, bluish	
Detergent (Jar)	10	0 (S0)	0 (S0)	0 (S0)	Very marked change of surface colour - yellowish and gloss - semi-matt	
Distilled water	11	0 (S0)	0 (S0)	0 (S0)	0 (S0) Very marked change of surface gloss—semi-matt	

Test performed by: Inka Černíková

TEST REPORT T 248/1

Page number / Total number of pages: 11/11

The number of enclosures: 1

Sample specification

Sample name:	SP525 Těsnící tmel SPX
Producer:	Tremco illbruck s.r.o. Úvalská 737/34, 100 00 Praha 10
Sample lab code:	11 0297

č 1105.2

Additional information about the test

- 1) Sample SP 525 těsnící tmel SPX (sealing putty) was delivered on August, 1, 2011. The sample was applied to a clean glass of size 400 x 150 x 3 mm (cleaned with ethanol).
- 2) The test was carried out at the ambient temperature of (23±2) °C and (50±5) % relative humidity.
- 3) The choice of liquids and test conditions was specified by the customer.
 - 1) Gasoline premium unleaded
 - 2) Diesel fuel
 - 3) Engine oil
 - 4) Brake fluid
 - 5) H₂SO₄ (5%)
 - 6) HCl (10%)
 - 7) NaOH (5%)
 - 8) NaCl (10%)
 - 9) Coolant (Fridex)
 - 10) Detergent (Jar)
 - 11) Distilled water
- 4) During the test cellulose was used as an absorbent disc. Absorbent discs were changed during the test in the evaluation time and then every 24 hours (in the intervals 1/6, 1, 3, 5, 24, 72, 120, 240 hours and 240 hours + 24 hours regeneration). The sample was always washed and dried before the evaluation. Absorbent discs were closed with a glass cap (diameter 40 mm).
- 5) The damage of coating was evaluated according to ČSN EN ISO 4628 Paints and varnishes Evaluation of degradation of coatings Designation of quantity and size of defects, and of intensity of uniform changes in appearance

Part 1: General principles and rating schemes

Part 2: Assessment of degree of blistering

Part 4: Assessment of degree of cracking

Part 5: Assessment of degree of flaking

- The end of test report -

Test performed by: Inka Černíková

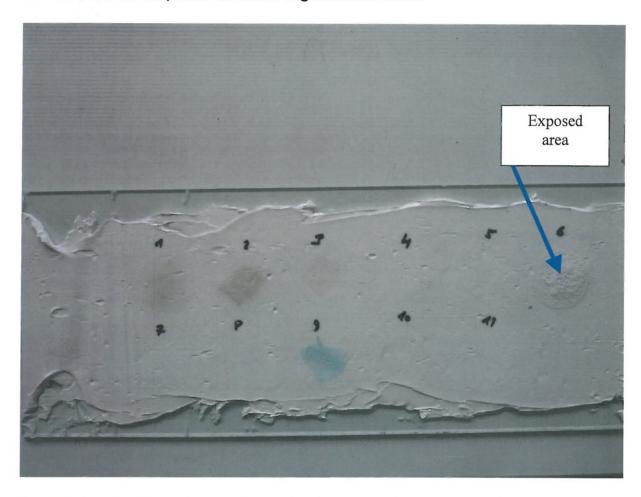
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Total number of pages: 11

Enclosure/ Total number of enclosures: 1/1

The photographs of the sample "SP525 Těsnící tmel SPX" after 240 hours of testing chemical resistance according to ČSN EN ISO 2812-3 (method using an absorbent material) with 24 hours regeneration time.

č.1105.2



Legend – test liquids

1	2	3	4	5	6
Gasoline premium unleaded	Diesel fuel	Engine oil	Brake fluid	H ₂ SO ₄ (5 %)	NaCl (10 %)
7	8	9	10	11	
NaOH (5 %)	NaCl (10 %)	Fridex	Detergent (Jar)	Distilled water	

Test finished on:

23.8.2011

Photographs taken on:

23.8.2011

Photograph taken by:

Inka Černíková.

Test performed by: Inka Černíková