Institute of Mining Technology



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LABORATORY OF MATERIAL ENGINEERING AND ENVIRONMENT





REPORT No. 176/DLS/2013

Testing the flammability of BEJCOLAK varnish delivered for testing by Przedsiębiorstwo Produkcyjno-Usługowo-Handlowe TUKAN St. Chmielek & St. Chmielek

Orderer:

rer: Przedsiębiorstwo Produkcyjno-Project No.: UP/DLS-17137/OR Usługowo-Handlowe TUKAN St. Chmielek & St. Chmielek Łany 6, 32-700 Bochnia, Poland

Name of tested object	Samples of pine wood: "reference sample", sample covered with BEJCOLAK varnish
Orderer markings:	1/2014 – "reference sample",
	2/2014 – sample covered with BEJCOLAK varnish
Numbers of samples according to R-DLS/7	176/14/P1 – "reference sample",
	176/14/P2 – sample covered with BEJCOLAK varnish
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Date of delivery of the object for testing: Date of beginning the tests/ tests completion: Place of testing:

03.04.2014 04.04.2014 / 08.04.2014 Laboratory of Material Engineering and Environment

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Sample number	e number Conformity / nonconformity with the requirements		
PN-EN 71-2:2011 Standard "Safety of toys. Part 2. Flammability"			
176/14/P2	item 4.1 General requirements	+	
170/14/2	item 4.4 Toys intended to be entered by a child	+	

signs: "+"- conform to the requirements "-" - not conform to the requirements

Note: Confirmation of conformity with the requirements is based on a confidence level of 95% for the expanded uncertainty of measurement results on which the decision of conformity is based.

Leader of testing team:	Bożena Rakwic, Ph.D. Eng.	Rakinc
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Members of testing team:	Robert Wojtynek, M.Sc. Eng.	
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Authorized by	Beata Grynkiewicz-Bylina, Ph.D.	
Authorized by:	Professor at KOMAG	Come
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		Approved by
		Kierownik Laboratorium Inżynierii Materiałowej i Śrzdowiska
		dr hab, ine. Beata Orynkiewicz-Bylina prof. nadzw. ITG KOMAG
	Gliwice, 10.04.2014	(signature and storm (
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Description of sample

Dimensions: length x width x thickness: 800 mm x 200 mm x 20 mm

Two samples made of pine wood:

- sample not covered with BEJCOLAK varnish, which is a "reference sample" for the sample covered with varnish,

- sample covered with BEJCOLAK varnish on one side.

The samples were taken and delivered for testing by the Orderer.

Range and methods of testing

ltem	Tested parameters	Testing methods	PN-EN 71-2:2011 Standard
1.	flammability of toys intended to be entered by a child	flammability test	item 5.4

Tests of overall flammability of BEJCOLAK varnish were carried out as proficiency tests for the samples of pine wood, i.e. sample covered with varnish and "reference sample" not covered with varnish.

Test results

The samples (No. 176/14/P1÷P2) for testing the flammability were damaged due to the character of tests.

Item	Sample name	Sample number	Name of test	Test result
1.	BEJCOLAK varnish			the reference sample did not catch
	"reference sample" not covered with varnish	176/14/P1	flammability test	fire, the sample covered with varnish caught fire, the first and the second threads were broken, flame propagation is equal to (0.235±0.001) mm/s, the tested varnish is not flammable material.
	wood sample covered with varnish	176/14/P2		

Note: measurement uncertainty U is an extended uncertainty at confidence level 95% and extension coefficient k=2, according to the general instruction IO-DLS/03.

The results and their uncertainty refer only to the tested sample and not to the product batch/ substance/ material the sample was taken from.

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Opinions and interpretations

In the light of tests results presented in the Tests Report No. 176/DLS/2014 the sample of BEJCOLAK varnish **meets the requirements** given in items 4.1 and 4.4 of PN-EN 71-2:2011 Standard entitled "Safety of toys. Part 2. Flammability".

The sample of pine wood covered with the above mentioned varnish is not flammable material.

During the flammability test:

- rate of flame propagation for sample of pine wood covered with BEJCOLAK varnish (No. 176/14/P2) was equal to (0.235±0.001) mm/s,
- "reference sample" of pine wood not covered with varnish (No. 176/14/P1) did not catch fire.

Bożena Rakwic, Ph.D. Eng., is responsible for opinions and interpretations