



**INSTITUT PRO TESTOVÁNÍ A CERTIFIKACI, a.s.**  
třída T.Bati 299, 764 21 Zlín  
TESTING LABORATORY

**ATTEST**  
no. 412203967

for a sample of  
**Polycarbonate Baton**

of the client:  
**POLYGEMA s.r.o.**  
Jelení 463, 742 45 FULNEK, IČ: 25834479

The results of selected technical characteristics

Characteristics measured	Unit	Resulting value <sup>1)</sup>	Measurement uncertainty <sup>2)</sup>	Testing method
Flexural Strength of boton's body	MPa	106 <sup>3)</sup>	1	P-09-23
Flexural Strength of cross handl	-	see table no.2	-	
Resistance to crasking under lower temperatures	-	without dangerous cracks and sharp edges		

**Explanations:**

- 1) Arithmetic mean value
- 2) Sample standard deviation of arithmetic mean value
- 3) All test pieces without breaking

Date of issue: 23rd July 2009

Date of Attest expiration: 30th July 2011



Doc. Ing. Vladimír Klepal, CSc.  
Director of Testing Division

*The results given in this Attest apply only to the sample tested by our laboratory.  
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**Testing laboratory**

ATTEST no. 412203967/1

**Sample description and identification:**

The sample – polycarbonate boton TONFA TR, was received for testing and registered under the number 412203967/01

**Figure 1: Polycarbonate boton TONFA TR, Registration number: 412203967/01**



**Sampling method:**

The sample was supplied by the client and taken by the laboratory staff member using the random selection method - non-accredited sampling, etc.

**Work requested:**

1. Flexural Strength of boton's body
2. Flexural Strength of cross handl
3. Resistance to crasking under lower temperatures

**Testing method used:**

ad 1. – 3. Testing of plastic batons ITC P-09-23

**Testing equipment used:**

- ad 1-2. INSTRON 5500R universal tensile tester  
ad 3. Vestfrost 217 freezing box

**Conditioning:**

Conditioning time: 24 hours, conditioning temperature: 23 °C, relative humidity of air: 50%

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ATTEST no. 412203967/1

**Test conditions :**

- ad 1. Test pieces were prepared from cylindrical part of batons, length 400 mm, three-point arrangement; distance of supports: 300 mm, mandrel radius of 12,5 mm, radius supports 10 mm, speeds of 10 mm/min, number of test pieces: 3.
- ad 2. Tested the finished product, speeds of 50 mm/min, number of test pieces: 3
- ad 3. Tested the finished product, exposure: -30 ° C, 6 hours, immediately after exposition performed strong stroke on the steel profile, number of test pieces: 3

**Test results :**

Test results are given in the following tables :

**Table 1: Polycarbonate boton TONFA TR, Registration number: 412203967/01**

Characteristics measured	Unit	Resulting value <sup>1)</sup>	Measurement uncertainty <sup>2)</sup>
Flexural Strength of boton's body	MPa	106 <sup>3)</sup>	1
Resistance to cracking under lower temperatures	-	without cracks and sharp edges	-

**Explanations:**

- 1) Arithmetic mean value  
2) Sample standard deviation of arithmetic mean value  
3) All test pieces without breaking

**Table 2. Polykarbonátová TONFA TR. , evidenční číslo: 412203967/01  
Flexural Strength of cross handl**

Test piece	Unit	Measured value	Note
1	N	2970	Test stopped - test piece without breaking
2	N	2710	Test piece was break
3	N	2250	Test stopped - test piece without breaking

**Tested by:**

- ad 1. Pospíšilová Blažena, Ing. Hrnčiarová Anna 22.7.2009  
ad 2. Ing. Hrnčiarová Anna 22.7.2009  
ad 3. Borský Milan 21.7.2009

Dipl. Ing. Věra Bohatová  
Head of Physical Testing Laboratory