



SOLUÇÕES EM POLÍMEROS

Technical Report

AFK2793/25

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Date samples were received by Afinko: 03/06/2025	
Date the work was developed: 04/06/2025 to 06/08/2025	

SUMMARY

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1 SAMPLE(S) IDENTIFICATION

Sample sent by the client was identified by Afinko according to Table 1. Figure 1 show an image of the sample as received.

Table 1 – Sample(s) Identification

Afinko's Identification	Client's Identification
AFK253878	Resina B = Smart Print Bio Bite Splint Clear



Figure 1 – Image of Sample AFK253878.

2 OBJECTIVES

To perform Flexural Test on 01 (one) sample to characterize it.

3 METHODS

3.1 Flexural (ISO 20795)

The following table shows the test conditions.

Table 2 - Flexural test conditions.

Lab Temperature: 23,4°C	Lab Humidity: 52%
Test Temperature: 23°C	Number of Test Specimens: 05
Load Cell: 500 N	Span: 32 mm
Test Speed: 1,00 mm/min	
Specimens Dimensions:	Width: (8,06 ± 0,02) mm
	Thickness: (3,96 ± 0,01) mm
Specimens Preparation:	() Injection
	() Machining
	() Stamping
	(X) Sent by the client
Perform Date: 17/07/2025	
Equipment(s): Instron EMIC, model 23-30	
Standard Test Method(s):	ABNT NBR ISO 20795-2:2020 – “Dentistry — Base polymers - Part 2: Orthodontic base polymers”

4 RESULTS

4.1 Flexural (ISO 20795)

Figure 2 shows the load curves as a function of the strain. Table 3 shows the test results.

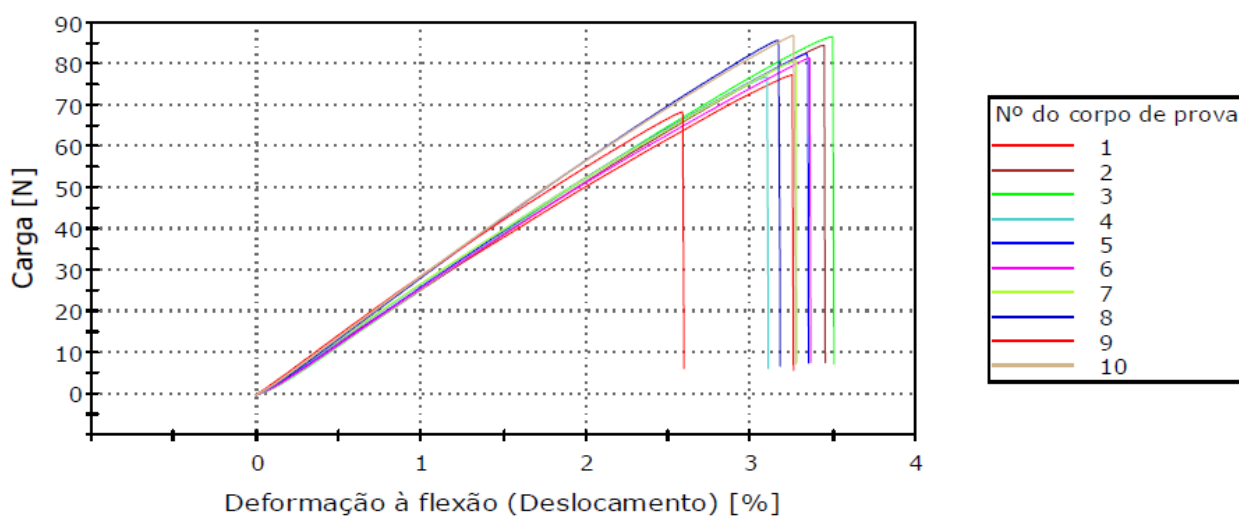


Figure 2 – Load x Strain curves of sample AFK253878.

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Table 3 - Flexural test results.

Sample	Sp	Maximum Load (N)	Maximum Stress Intensity Factor (MPa.m ^{1/2})	Total Frature Work (J/m ²)
AFK253878	1	77,27	3,00	726,29
	2	84,46	3,30	834,79
	3	86,52	3,36	858,71
	4	76,83	3,06	692,87
	5	82,34	3,23	787,50
	6	81,34	3,16	785,52
	7	80,64	3,37	762,84
	8	85,68	2,69	787,50
	9	68,38	3,42	526,96
	10	86,79	3,14	802,08
Average		81,03	3,17	756,51
Standard Deviation		5,68	0,22	93,75

5 CONCLUSIONS

In the following table is a summary of the results obtained in this work.

Table 4 – Summary of the Results.

Test	Property	AFK253878
Flexural (ISO 20795)	Maximum Load (N)	81,03
	Maximum Stress Intensity Factor Kmax (MPa.m ^{1/2})	3,17
	Total Frature Work (J/m ²)	756,51

São Carlos, August 6, 2025.



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Final observations

- Results presented in this report refer exclusively to the analyzed samples, at the exact conditions the tests were performed and therefore, they must not be extended to any lot, even if similar to the ones analyzed. Additional images were inserted at completion.
- The laboratory is not responsible in case of misinterpretation of data nor eventual improper use of the document.
- The reproduction of this document must be done in full.
- Samples are maintained at Afinko for two months or for the period specified by the budget/contract.
- Afinko considers the result obtained through the tests as a comparative value to the classification referenced in the technical standards, when applied. Measurement uncertainty will only be expressed in the Technical Report upon customer's request.

-- End of report --