

Test Report

REPORT NUMBER:
254412-3



**DANISH
TECHNOLOGICAL
INSTITUTE**

Teknologiparken
Kongsvang Allé 29
DK-8000 Aarhus C
+45 72 20 20 00
Info@teknologisk.dk
www.teknologisk.dk#

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Init: MPJ/OTHE
Order No.: 254412-3
Encl.: 0

Assignor:	POLYGROUP A/S Vestermarksvej 5 DK-6630 Rødding
Item:	Distance blocks made of plastic material.
Sampling:	The assignor confirms having drawn the sample. The sample was forwarded by the assignor and received at Danish Technological Institute on 28-05-2024.
Period:	Testing took place on the 3 th of June 2024.
Method:	The test method is described in the report.
Test result:	See following page(s) for full result overview.
Remarks:	This report replaces 254412-2. Assignor mark/dimension has been updated and the color of the specimens has been added.
Terms:	This analysis/test was conducted in accordance with international requirements (ISO/IEC 17025:2017) and in accordance with the General Terms and Conditions of Danish Technological Institute. The test results solely apply to the tested item. This analysis report/test report may be quoted in extract only if Danish Technological Institute has granted its written consent.
Place:	Danish Technological Institute. Industrial Materials Technology
Signature:	This document is only valid with a digital signature from Danish Technological Institute. The date of issue appears from the digital signature. Approved and signed by:

Michael Perolle Jensen
Senior Specialist. Mech. Eng.



Scope

The purpose of the test is to determine displacement at loads from 50kg to 500kg with increments of 50kg for distance blocks made of plastic.

Specimen

Test specimens consist of 3 different distance blocks as shown on Figure 1. The DTI marking and corresponding type of distance block is shown in Table 1.

Table 1. Marking and specimen identification.

DTI Mark:	Assignor mark/dimension:	Color
254412-A1	70x45x2mm	Red
254412-B1	70x45x2mm	
254412-C1	70x45x2mm	
254412-D1	70x45x2mm	
254412-E1	70x45x2mm	
254412-F1	70x45x5mm	Blue
254412-G1	70x45x5mm	
254412-H1	70x45x5mm	
237413-I1	70x45x5mm	
237413-J1	70x45x5mm	
237413-K1	70x45x10mm	Black
237413-L1	70x45x10mm	
237413-M1	70x45x10mm	
237413-N1	70x45x10mm	
237413-O1	70x45x10mm	

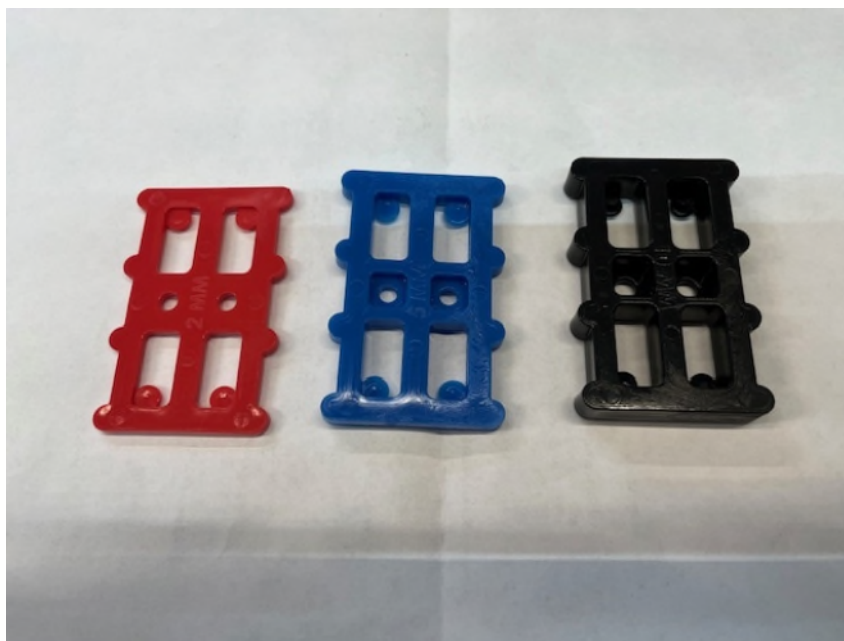


Figure 1. Picture of the 3 different distance blocks.



Test procedure and setup

The test was conducted by positioning the distance block between a solid steel block and a steel plate. The steel block was placed at the lower section of the testing machine, while the steel plate was placed atop the distance block. The testing machine exerted compression force on the steel plate. The test setup is shown on Figure 2. The test was performed in Instron 5582 Universal test machine (ID: 4636) calibrated in class 1.

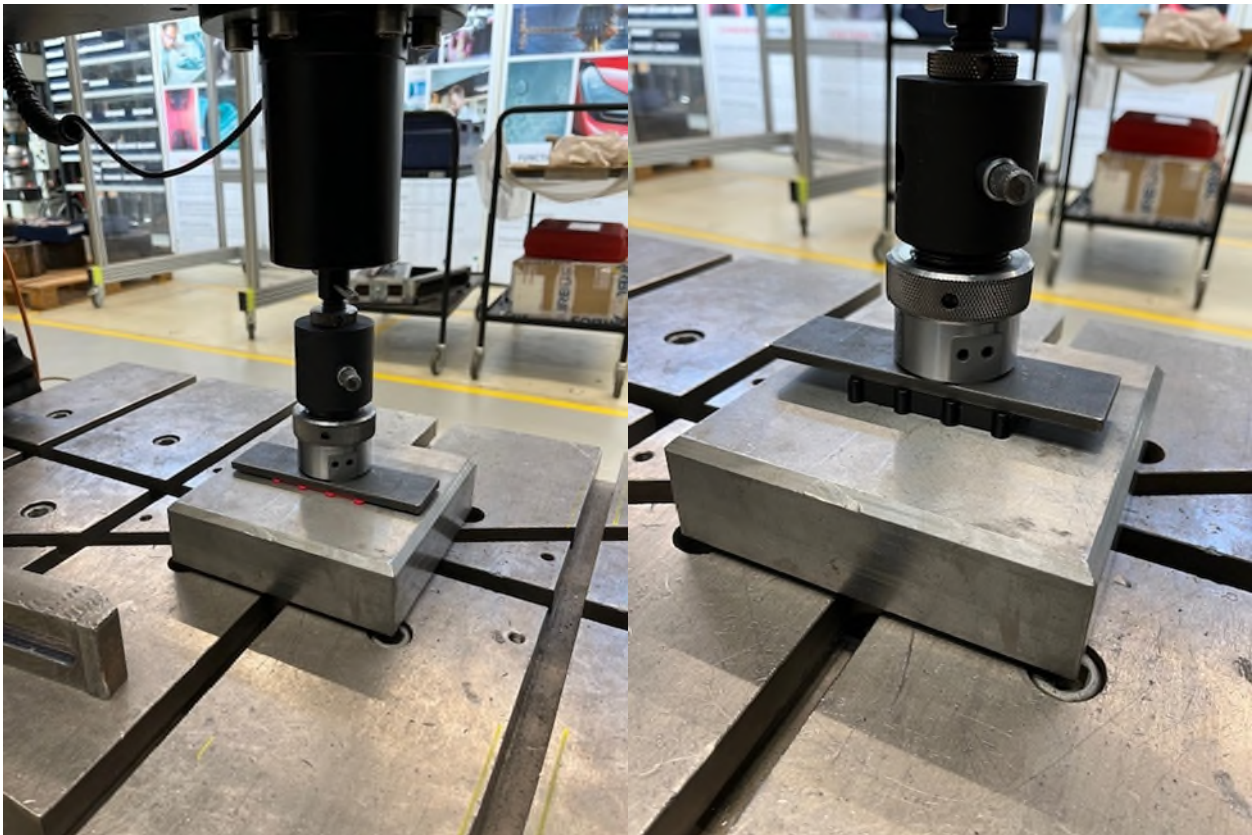


Figure 2. Test setup.



Results

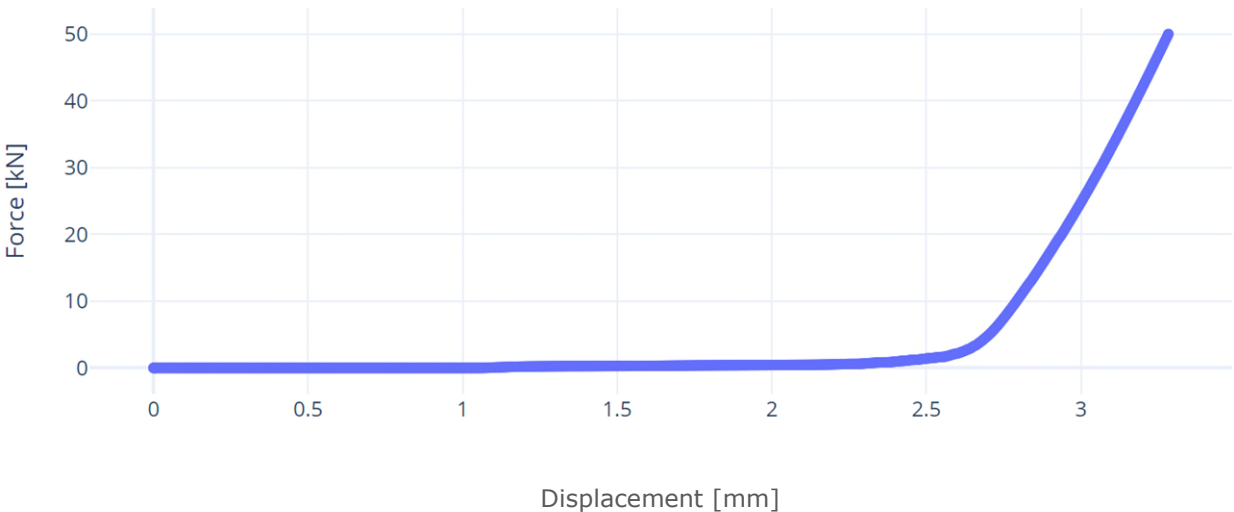
Table 2 shows the test results.

Table 2. Test results.

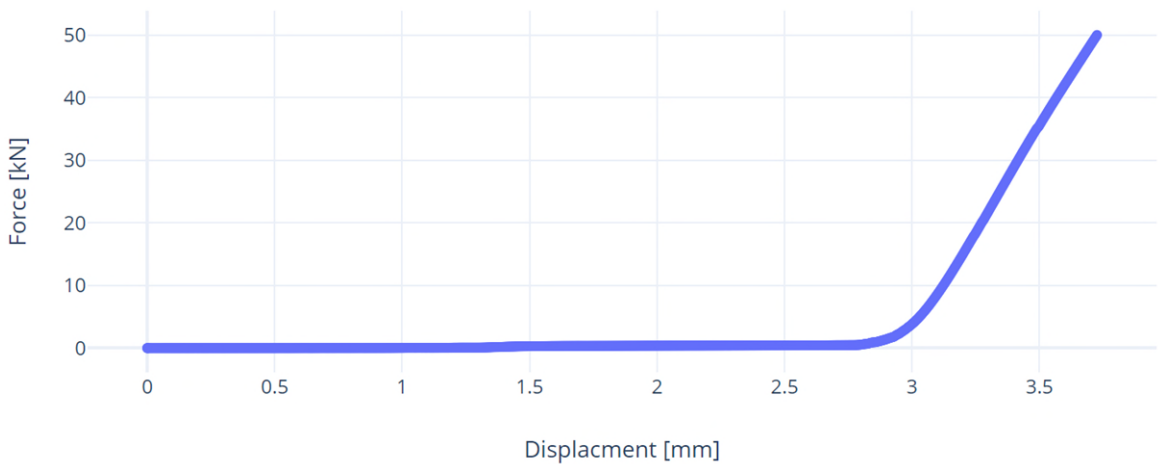
	Load [kg]	500	1000	1500	2000	2500	3000	3500	4000	4500	5000
	DTI Mark	Displacement [mm]									
2mm	254412-A1	2.7	2.8	2.9	2.9	3.0	3.1	3.1	3.2	3.2	3.3
	254412-B1	3.0	3.1	3.2	3.3	3.4	3.4	3.5	3.6	3.6	3.7
	254412-C1	2.7	2.8	2.9	2.9	3.0	3.1	3.1	3.2	3.2	3.3
	254412-D1	2.6	2.7	2.8	2.8	2.9	3.0	3.0	3.1	3.1	3.2
	254412-E1	2.7	2.8	2.9	2.9	3.0	3.1	3.1	3.2	3.2	3.3
	Average	2.7	2.8	2.9	2.9	3.0	3.1	3.1	3.2	3.2	3.3
5mm	254412-F1	7.9	8.0	8.0	8.1	8.2	8.2	8.3	8.4	8.4	8.5
	254412-G1	4.7	4.8	4.9	5.0	5.0	5.1	5.2	5.3	5.3	5.4
	254412-H1	4.7	4.8	4.9	5.0	5.0	5.1	5.2	5.3	5.3	5.4
	237413-I1	4.8	4.8	4.9	5.0	5.1	5.1	5.2	5.3	5.4	5.4
	237413-J1	4.0	4.1	4.2	4.3	4.4	4.4	4.5	4.6	4.7	4.8
	Average	5.2	5.3	5.4	5.5	5.5	5.6	5.7	5.8	5.8	5.9
10mm	237413-K1	4.1	4.1	4.2	4.3	4.4	4.5	4.5	4.6	4.7	4.9
	237413-L1	4.0	4.1	4.2	4.3	4.4	4.5	4.5	4.6	4.7	4.9
	237413-M1	4.1	4.2	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9
	237413-N1	4.1	4.2	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9
	237413-O1	3.1	3.2	3.3	3.4	3.4	3.5	5.6	3.4	3.7	3.8
	Average	3.9	4.0	4.0	4.1	4.2	4.3	4.8	4.4	4.5	4.7

Force/displacement graphs

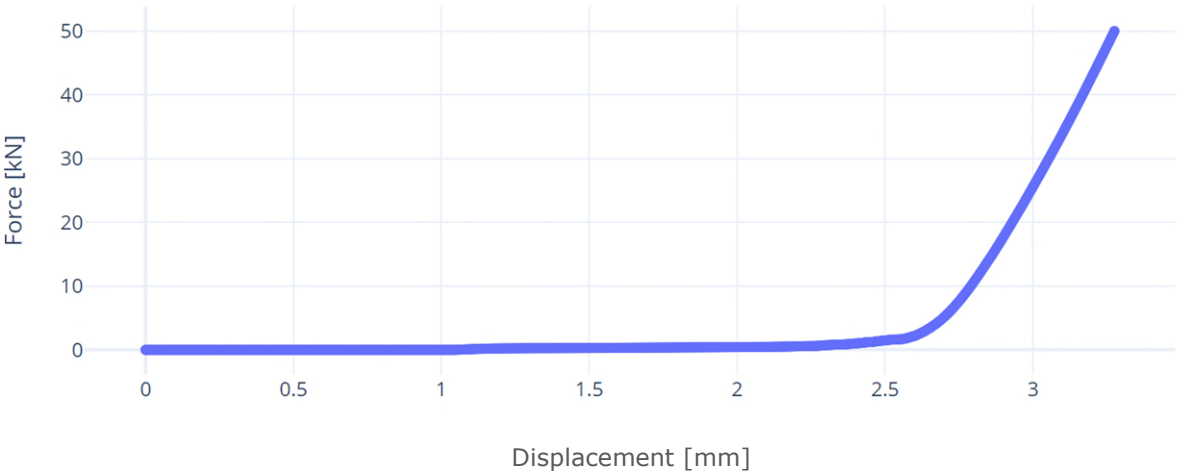
254412-A1 - 70x45x2mm - Red



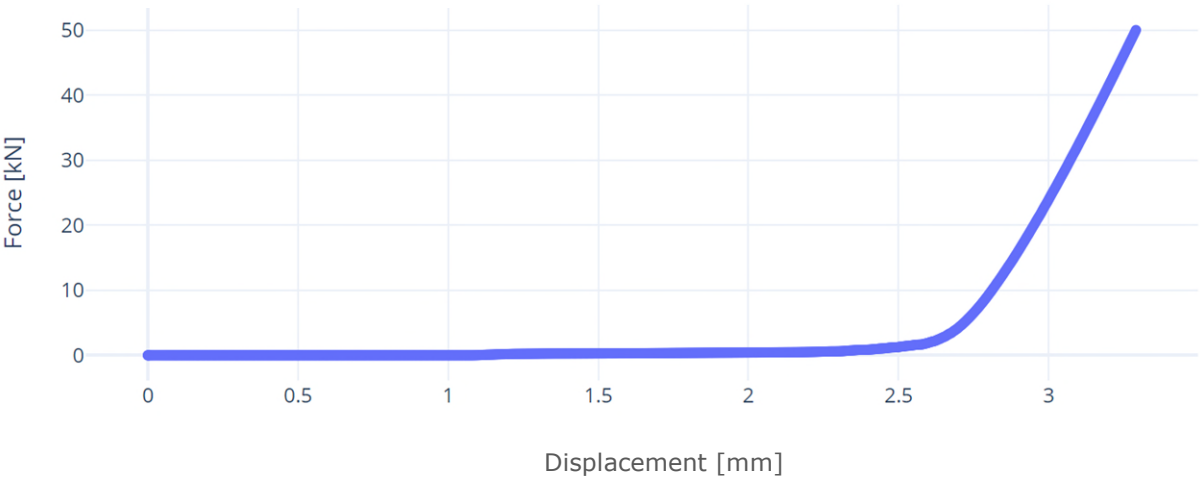
254412-B1 - 70x45x2mm - Red



254412-C1 - 70x45x2mm - Red

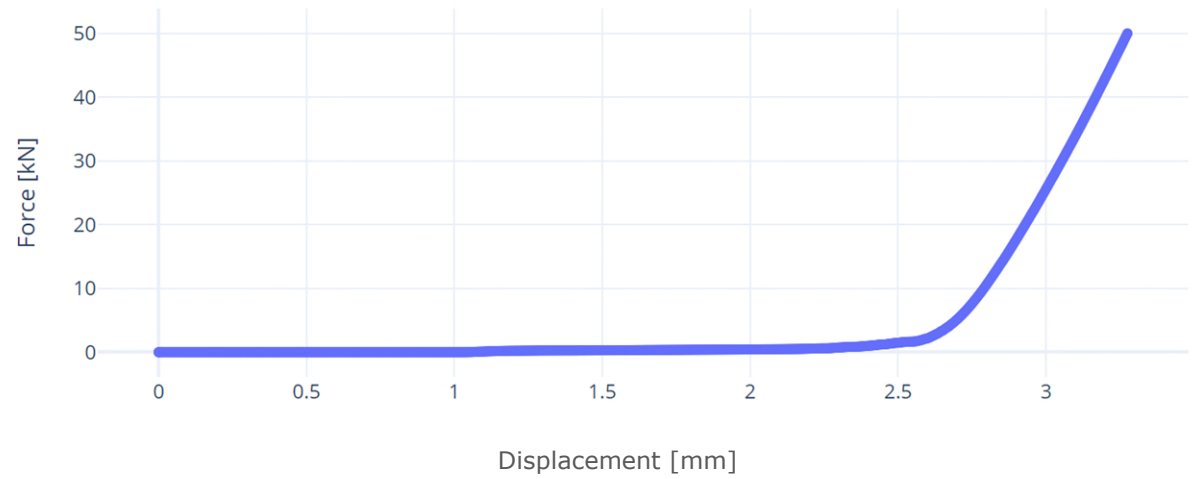


254412-D1 - 70x45x2mm - Red

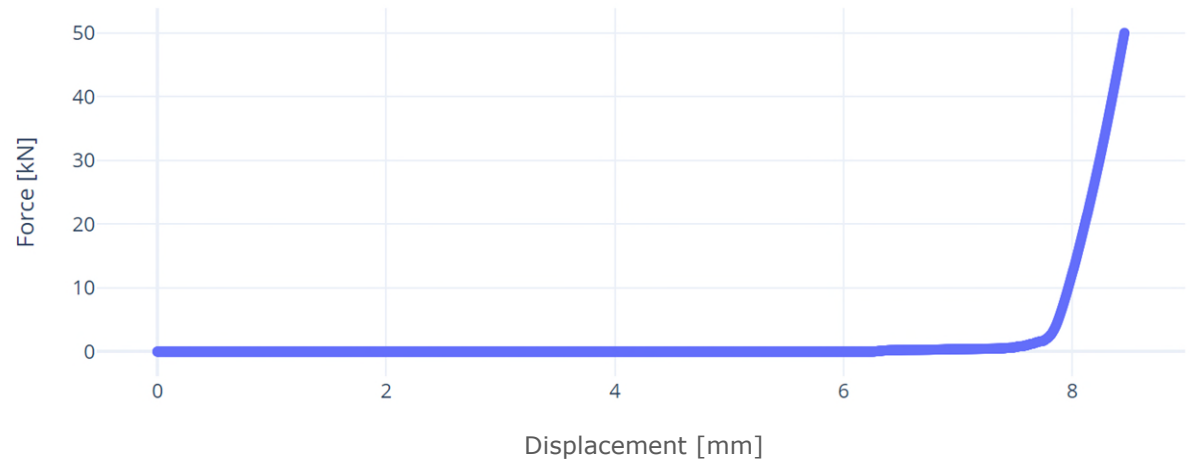




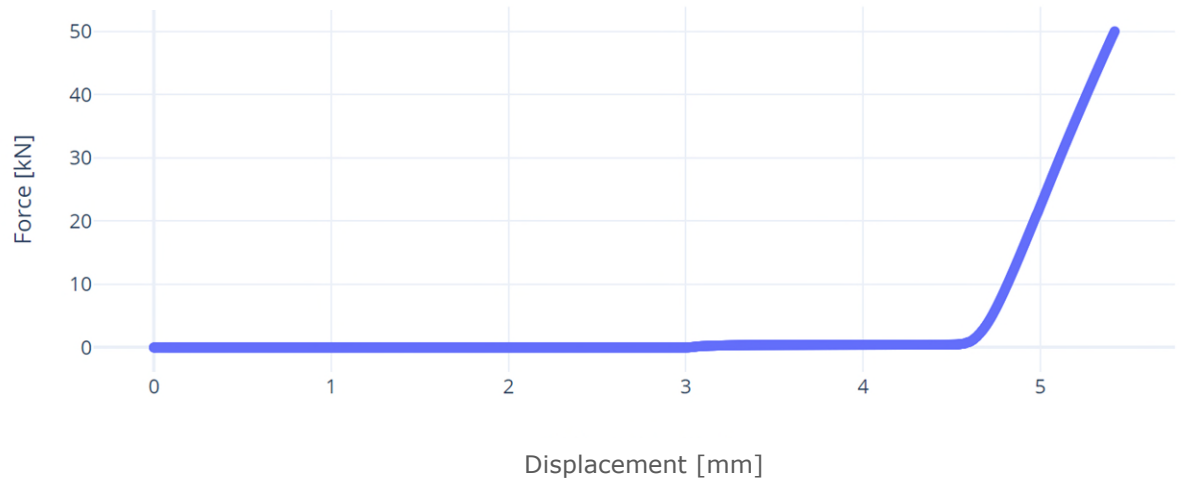
254412-E1 - 70x45x2mm - Red



254412-F1 - 70x45x2mm - Blue

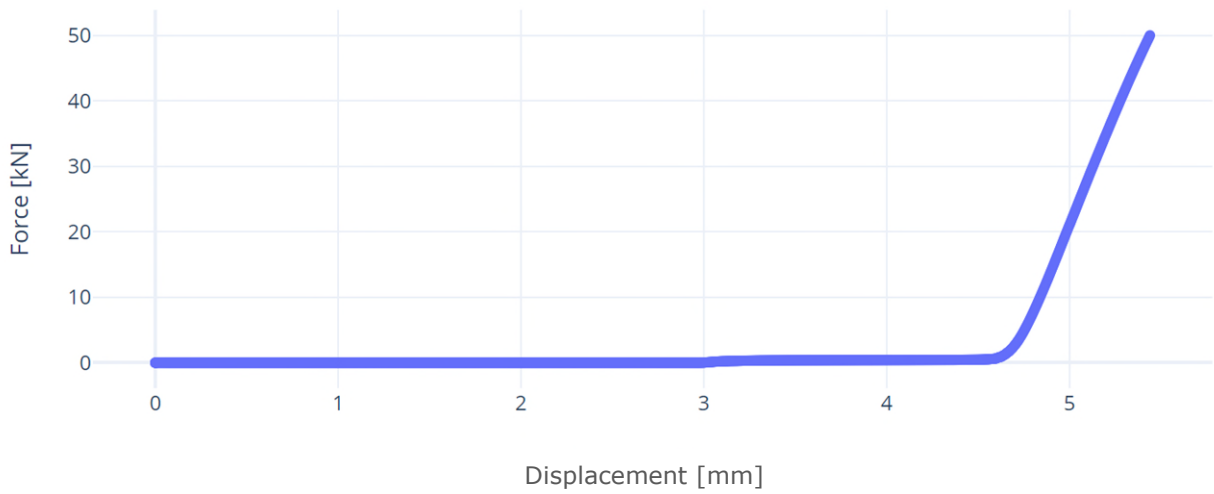


254412-G1 - 70x45x2mm - Blue

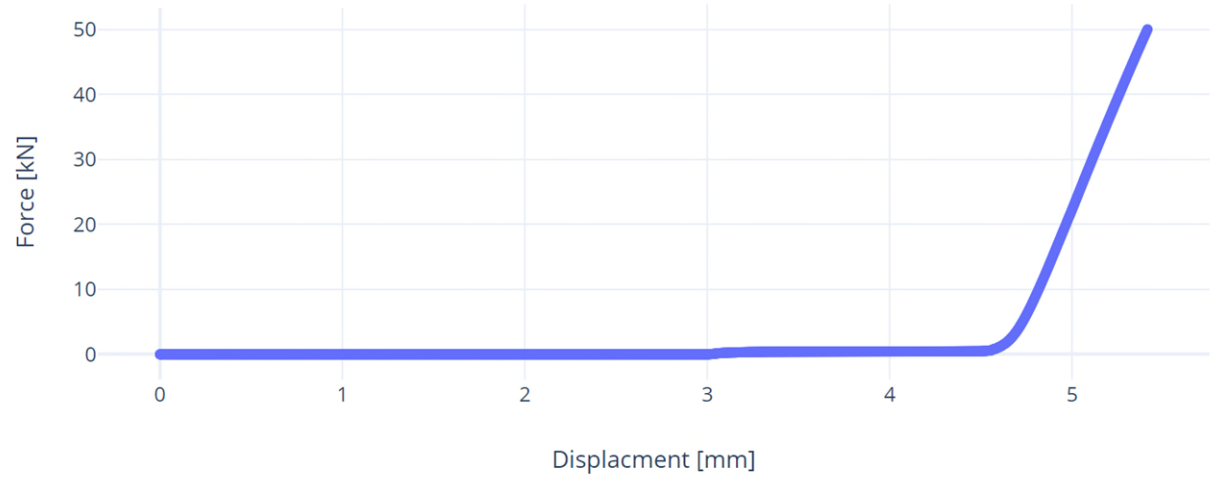




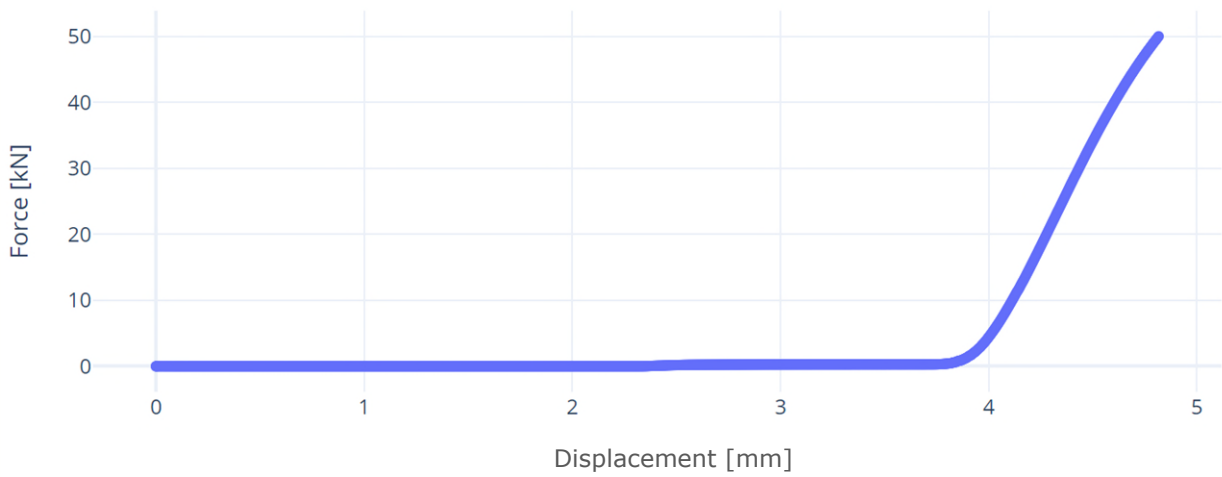
254412-H1 - 70x45x2mm - Blue



254412-I1 - 70x45x2mm - Blue

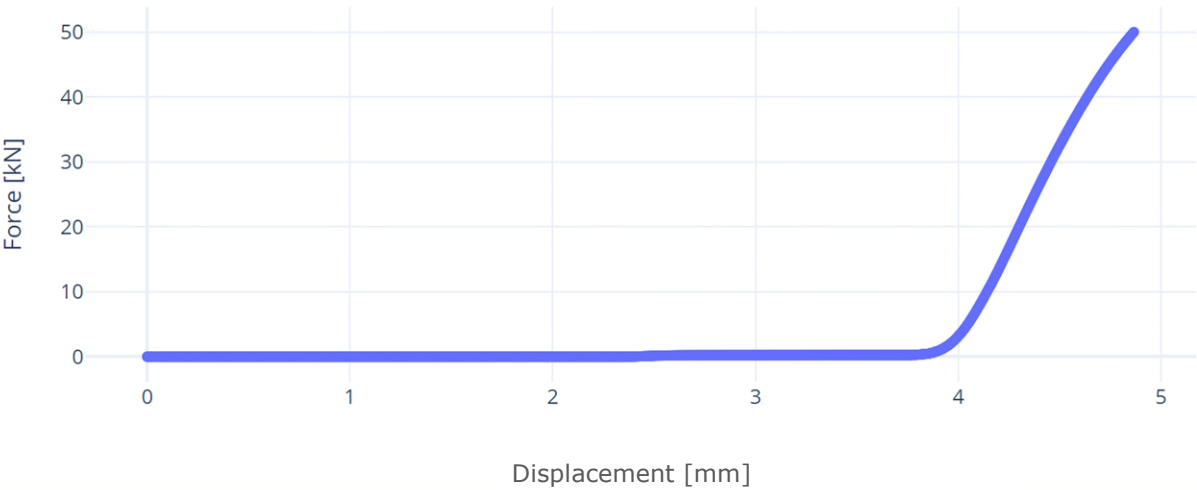


254412-J1 - 70x45x2mm - Blue

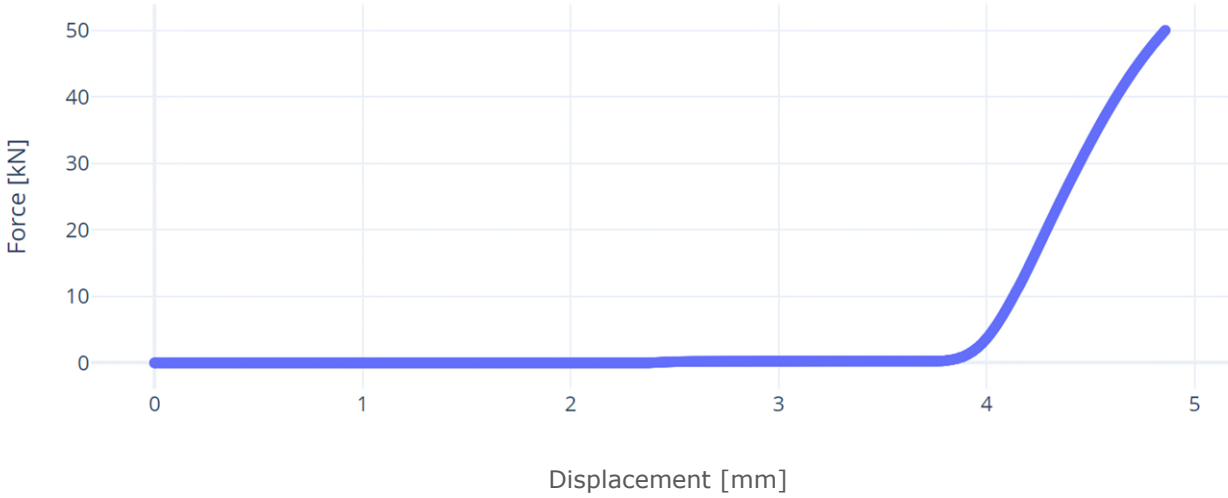




254412-K1 - 70x45x2mm - Black



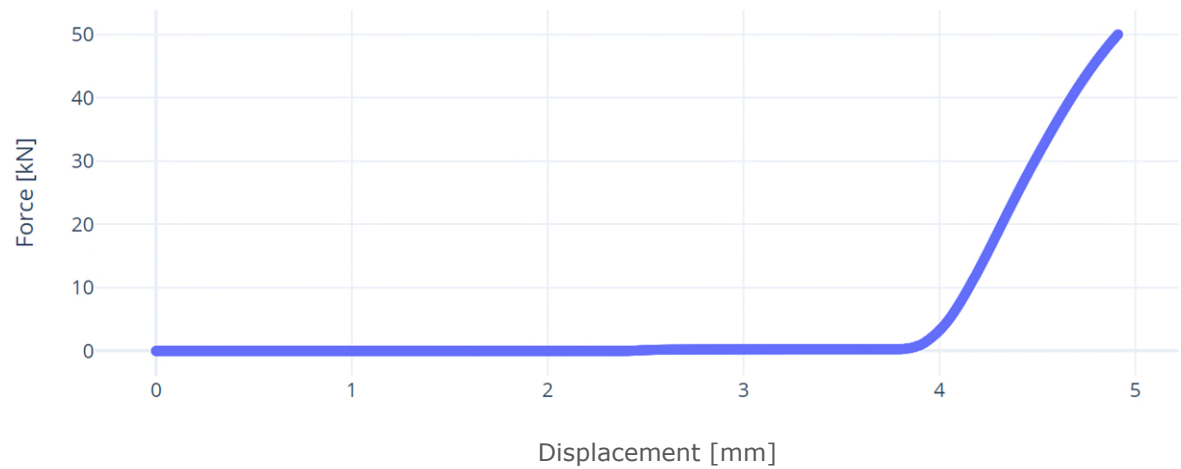
254412-L1 - 70x45x2mm - Black



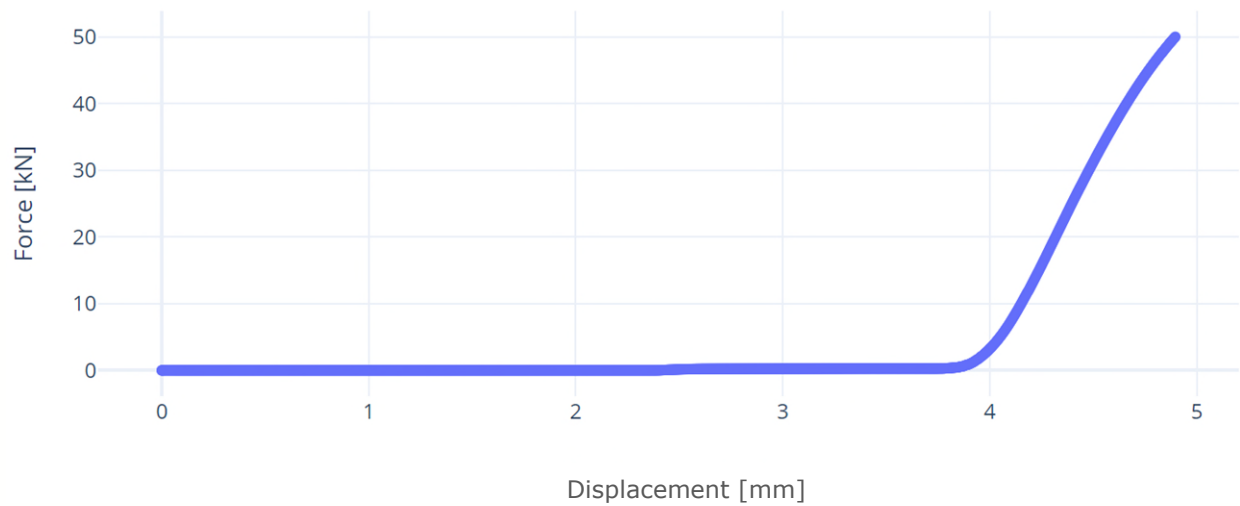


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254412-M1 - 70x45x2mm - Black



254412-N1 - 70x45x2mm - Black



254412-O1 - 70x45x2mm - Black

