

9

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9.ANEXO.

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9.1. ENSAYOS DE COMPRESIÓN.

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9.1.3. Cerámica convencional.

9.1.4. 3M™ Block EXM 260.

9.1.1. Cerámica Vitablocks® Mark II.

Sample ID: A2.mss
 Method: Compression Daniel.msm

Test Date: 10/10/00
 Operator: MTS

Sample Information:

	Value
Tipo de ensayo	Compression
Tipo de material	HDPE

Memo:

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Specimen Results:

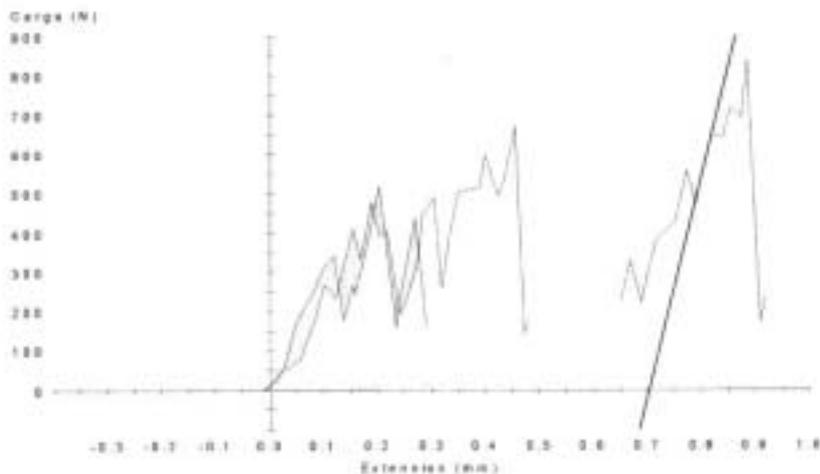
Specimen	Diameter mm	Modulus GPa	Peak Load N	Peak Stress MPa
1	6.0	14.15	671.27	23.74
2	6.0	9.51	517.12	18.29
3	6.0	10.06	841.17	29.75
Mean	6.0	11.24	676.52	23.93
Std. Dev.	0.0	2.53	162.09	5.73

Specimen Comments:

Specimen	Comments
1	
2	
3	

Test Inputs:

Name	Value	Units
Break Sensitivity	95	%
Break Threshold	250.00000	N
Data Acq. Rate	2.0	Hz
Extension Endpoint	25.40000	mm
ForceRate	25.000	N/s
Gage Adjustment Pre-Load	25.00000	N
Gage Adjustment Speed	5.00000	mm/min
Initial Speed	2.00000	mm/min
Load Endpoint	4448.00000	N
Outer Loop Rate	100	Hz
Secondary Speed	5.08000	mm/min
Strain Endpoint	20.00000	%



Sample ID: A4.mzz
 Method: Compression Daniel.mzm

Test Date: 11/10/00
 Operator: MTS

Sample Information:

	Value
Tipo de ensayo	Compression
Tipo de material	Dent ceramica

Memo:

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Specimen Results:

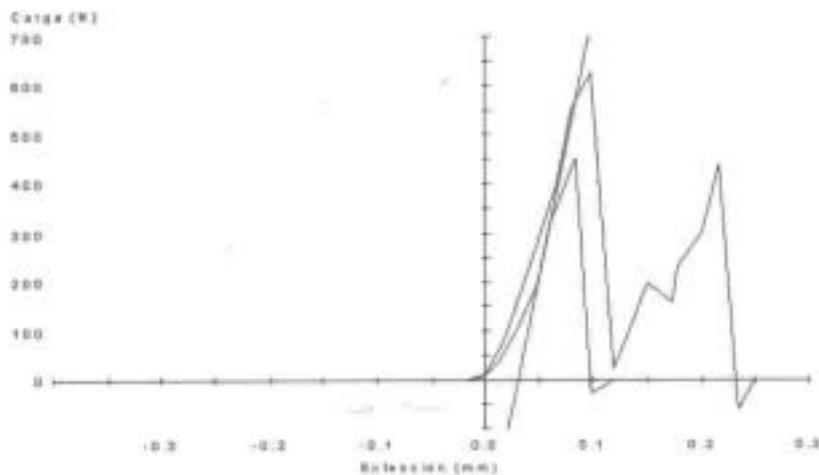
Specimen #	Diameter mm	Modulus GPa	Peak Load N	Peak Stress MPa
1	6.0	20.07	626.34	22.15
2	6.0	18.88	452.41	16.00
Mean	6.0	19.48	539.38	19.08
Std Dev	0.0	0.84	122.98	4.35

Specimen Comments:

Specimen #	Comments
1	
2	

Test Inputs:

Name	Value	Units
Break Sensitivity	1	s
Break Threshold	60.00000	s
Data Acq Rate	2.0	Hz
Extension Endpoint	25.40000	mm
ForceRate	25.000	N/s
Gage Adjustment Pre-Load	25.00000	N
Gage Adjustment Speed	5.00000	mm/min
Initial Speed	2.00000	mm/min
Load Endpoint	4448.00000	N
Outer Loop Rate	100	Hz
Secondary Speed	5.08000	mm/min
Strain Endpoint	20.00000	%



Sample ID: A5.mm
 Method: Compresion Daniel.msm

Test Date: 11/10/00
 Operator: MTS

Sample Information:

	Value
Tipo de ensayo	Compresion
Tipo de material	Dent cerámica

Memo:

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Specimen Results:

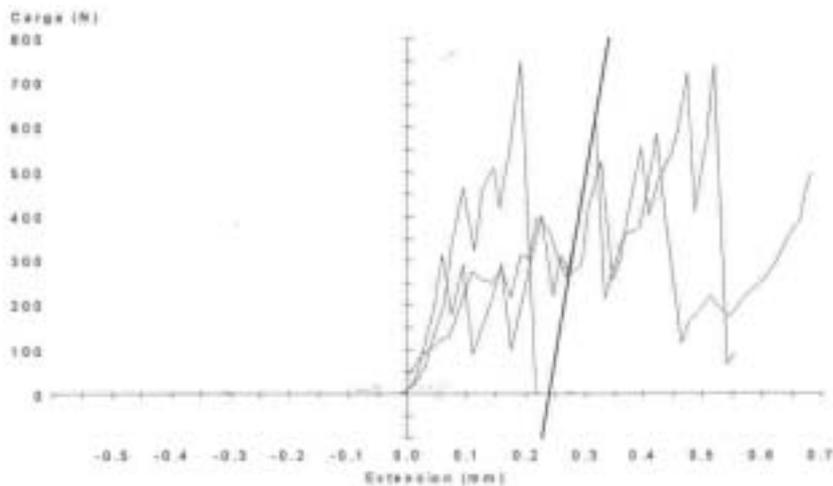
Specimen #	Diameter mm	Modulus GPa	Peak Load N	Peak Stress MPa
1	6.0	15.40	746.09	26.39
2	6.0	13.28	738.12	26.10
3	6.0	14.25	626.92	22.17
Mean	6.0	14.31	703.71	24.89
Std. Dev.	0.0	1.06	66.62	2.36

Specimen Comments:

Specimen #	Comments
1	
2	
3	

Test Inputs:

Name	Value	Units
Break Sensitivity	1	s
Break Threshold	60.00000	s
Data Acq. Rate	2.0	Hz
Extension Endpoint	25.40000	mm
ForceRate	25.000	N/s
Gage Adjustment Pre-Load	25.00000	N
Gage Adjustment Speed	5.00000	mm/min
Initial Speed	2.00000	mm/min
Load Endpoint	4448.00000	N
Outer Loop Rate	100	Hz
Secondary Speed	5.08000	mm/min
Strain Endpoint	20.00000	%



Sample ID: A6.mms
 Method: Compresion Daniel.msm

Test Date: 11/10/00
 Operator: MTS

Sample Information:

Value	
Tipo de ensayo	Compresion
Tipo de material	Dent cerámica

Memo:

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Specimen Results:

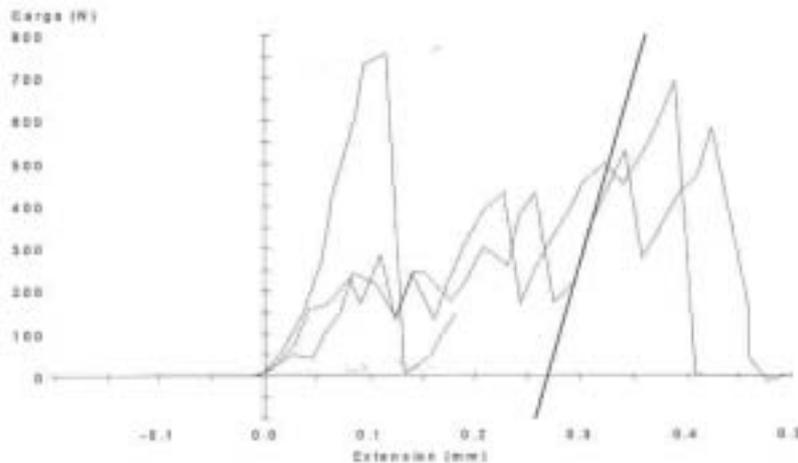
Specimen	Diameter mm	Modulus GPa	Peak Load N	Peak Stress MPa
1	6.0	11.20	693.37	24.52
2	6.0	27.37	757.63	26.80
3	6.0	15.40	584.41	20.67
Mean	6.0	17.99	678.47	24.00
Std. Dev.	0.0	8.39	87.56	3.10

Specimen Comments:

Specimen	Comments
1	
2	
3	

Test Inputs:

Name	Value	Units
Break Sensitivity	1	s
Break Threshold	60.00000	s
Data Acq. Rate	2.0	Hz
Extension Endpoint	25.40000	mm
ForceRate	25.000	N/s
Gage Adjustment Pre-Load	25.00000	N
Gage Adjustment Speed	5.00000	mm/min
Initial Speed	2.00000	mm/min
Load Endpoint	4448.00000	N
Outer Loop Rate	100	Hz
Secondary Speed	5.08000	mm/min
Strain Endpoint	20.00000	%



Sample ID: A7.mss
 Method: Compresion Daniel.msm

Test Date: 11/10/00
 Operator: MTS

Sample Information:

	Value
Tipo de ensayo	Compresion
Tipo de material	Dent cerámica

Memo:

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Specimen Results:

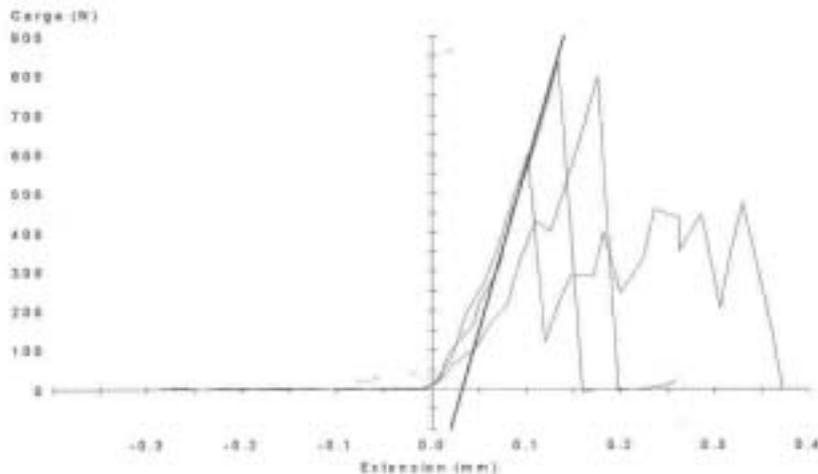
Specimen	Diameter mm	Modulus GPa	Peak Load N	Peak Stress MPa
1	6.0	13.62	599.77	21.21
2	6.0	14.51	798.08	28.23
3	6.0	14.96	836.58	29.59
Mean	6.0	14.37	744.81	26.34
Std. Dev.	0.0	0.68	127.07	4.49

Specimen Comments:

Specimen	Comments
1	
2	
3	

Test Inputs:

Name	Value	Units
Break Sensitivity	1	s
Break Threshold	60.00000	s
Data Acq. Rate	2.0	Hz
Extension Endpoint	25.40000	mm
ForceRate	25.000	N/s
Gage Adjustment Pre-Load	25.00000	N
Gage Adjustment Speed	5.00000	mm/min
Initial Speed	2.00000	mm/min
Load Endpoint	4448.00000	N
Outer Loop Rate	100	Hz
Secondary Speed	5.08000	mm/min
Strain Endpoint	20.00000	%



Sample ID: A8.mn
 Method: Compression Daniel.mn

Test Date: 11/10/00
 Operator: MTS

Sample Information:

	Value
Tipo de ensayo	Compresion
Tipo de material	Dent cerámica

Memo:

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Specimen Results:

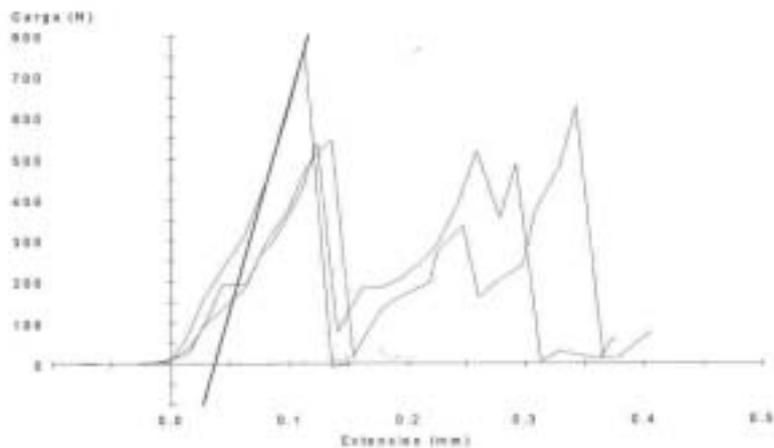
Specimen	Diameter mm	Modulus GPa	Peak Load N	Peak Stress MPa
1	6.0	9.50	536.17	18.96
2	6.0	9.84	623.74	22.06
3	6.0	18.05	768.56	27.18
Mean	6.0	12.46	642.83	22.74
Std. Dev.	0.0	4.84	117.36	4.15

Specimen Comments:

Specimen	Comments
1	
2	
3	

Test Inputs:

Name	Value	Units
Break Sensitivity	1	s
Break Threshold	60.00000	s
Data Acq. Rate	2.0	Hz
Extension Endpoint	25.40000	mm
ForceRate	25.000	N/s
Gage Adjustment Pre-Load	25.00000	N
Gage Adjustment Speed	5.00000	mm/min
Initial Speed	2.00000	mm/min
Load Endpoint	4448.00000	N
Outer Loop Rate	100	Hz
Secondary Speed	5.08000	mm/min
Strain Endpoint	20.00000	%



9.1.2. Cerámica ProCAD®.

Sample ID: B1.msa
 Method: Compresión Daniel.msm

Test Date: 11/10/00
 Operator: MTS

Sample Information:

	Value
Tipo de ensayo	Compresion
Tipo de material	Dent cerámica

Memo:

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Specimen Results:

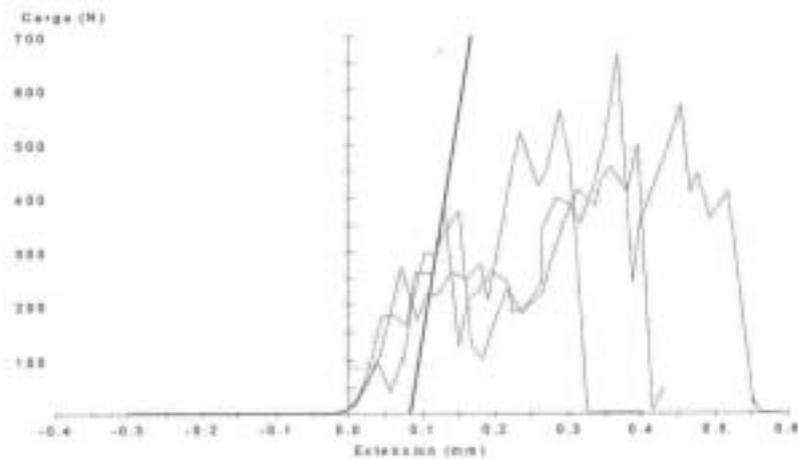
Specimen #	Diameter mm	Modulus GPa	Peak Load N	Peak Stress MPa
1	6.0	14.15	669.12	23.66
2	6.0	13.95	562.86	19.91
3	6.0	14.88	498.93	17.65
Mean	6.0	14.32	576.97	20.41
Std. Dev.	0.0	0.49	85.96	3.04

Specimen Comments:

Specimen #	Comments
1	
2	
3	

Test Inputs:

Name	Value	Units
Break Sensitivity	1	s
Break Threshold	60.00000	s
Data Acq. Rate	2.0	Hz
Extension Endpoint	25.40000	mm
ForceRate	25.000	N/s
Gap Adjustment Pre-Load	25.00000	N
Gap Adjustment Speed	5.00000	mm/min
Initial Speed	2.00000	mm/min
Load Endpoint	4448.00000	N
Outer Loop Rate	100	Hz
Secondary Speed	5.00000	mm/min
Strain Endpoint	20.00000	%



Sample ID: B2.mss
 Method: Compression Daniel.mmm

Test Date: 11/10/00
 Operator: MTS

Sample Information:

Value	
Tipo de ensayo	Compresion
Tipo de material	Dent cerámica

Memor:

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Specimen Results:

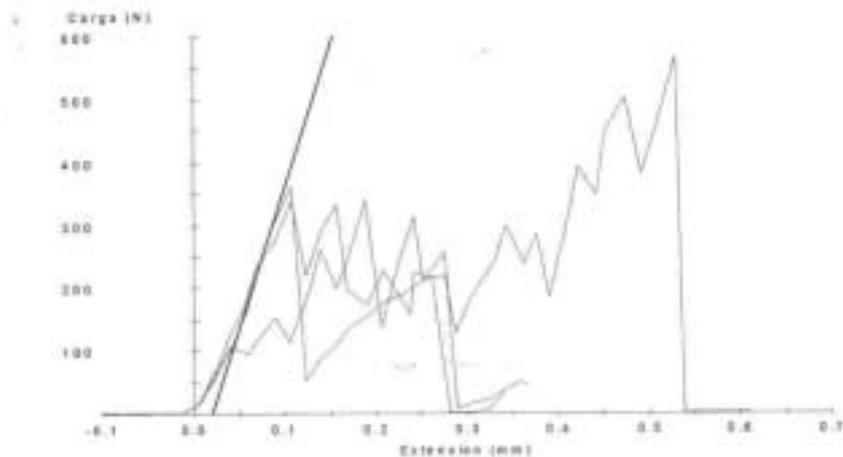
Specimen	Diameter mm	Modulus GPa	Peak Load N	Peak Stress MPa
1	6.0	12.03	567.43	20.07
2	6.0	8.67	340.02	12.02
3	6.0	8.18	362.38	12.82
Mean	6.0	9.63	423.27	14.97
Std. Dev.	0.0	2.09	125.34	4.43

Specimen Comments:

Specimen	Comments
1	
2	
3	

Test Inputs:

Name	Value	Units
Break Sensitivity	1	s
Break Threshold	60.00000	s
Data Acq. Rate	2.0	Hz
Extension Endpoint	25.40000	mm
ForceRate	25.000	N/s
Gage Adjustment Pre-Load	25.00000	N
Gage Adjustment Speed	5.00000	mm/min
Initial Speed	2.00000	mm/min
Load Endpoint	4448.00000	N
Outer Loop Rate	100	Hz
Secondary Speed	5.08000	mm/min
Strain Endpoint	20.00000	%



Sample ID: B3.mss
 Method: Compression Daniel.mss

Test Date: 11/10/09
 Operator: MTS

Sample Information:

	Value
Tipo de ensayo	Compression
Tipo de material	Dent cerámica

Memor:

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Specimen Results:

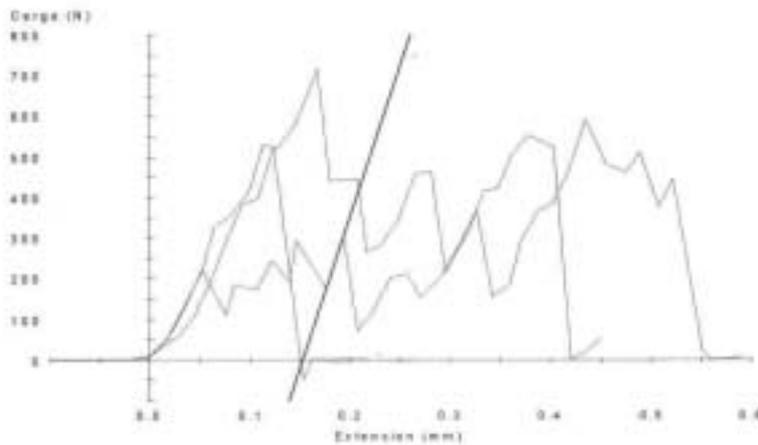
Specimen #	Diameter mm	Modulus GPa	Peak Load N	Peak Stress MPa
1	6.0	11.14	522.76	18.49
2	6.0	11.72	714.80	25.28
3	6.0	13.37	590.58	20.89
Mean	6.0	12.08	609.38	21.55
Std. Dev.	0.0	1.16	97.39	3.44

Specimen Comments:

Specimen #	Comments
1	
2	
3	

Test Inputs:

Name	Value	Units
Break Sensitivity	1	s
Break Threshold	60.00000	s
Data Acq. Rate	2.0	Hz
Extension Endpoint	25.40000	mm
ForceRate	25.000	N/s
Gage Adjustment Pre-Load	25.00000	N
Gage Adjustment Speed	5.00000	mm/min
Initial Speed	2.00000	mm/min
Load Endpoint	4448.00000	N
Outer Loop Rate	100	Hz
Secondary Speed	5.08000	mm/min
Strain Endpoint	20.00000	%



Sample ID: B4.mss
 Method: Compresion Daniel.msm

Test Date: 11/10/00
 Operator: MTS

Sample Information:

	Value
Tipo de ensayo	Compresion
Tipo de material	Dent cerámica

Memo:

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Specimen Results:

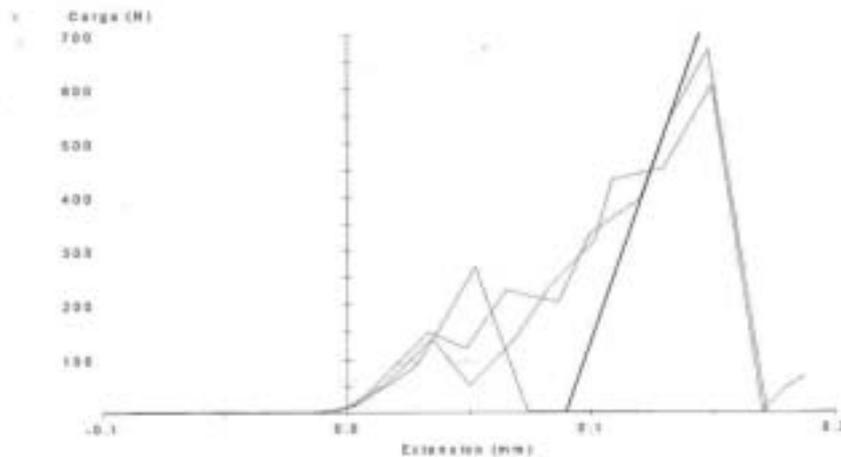
Specimen #	Diameter (mm)	Modulus GPa	Peak Load N	Peak Stress MPa
1	6.0	13.31	270.12	9.55
2	6.0	12.76	606.50	21.45
3	6.0	22.78	672.16	23.77
Mean	6.0	16.28	516.26	18.26
Std. Dev.	0.0	5.64	215.68	7.63

Specimen Comments:

Specimen #	Comments
1	
2	
3	

Test Inputs:

Name	Value	Units
Break Sensitivity	1	s
Break Threshold	60.00000	s
Data Acq. Rate	2.0	Hz
Extension Endpoint	25.40000	mm
ForceRate	25.000	N/s
Gage Adjustment Pre-Load	25.00000	N
Gage Adjustment Speed	5.00000	mm/min
Initial Speed	2.00000	mm/min
Load Endpoint	4448.00000	N
Outer Loop Rate	100	Hz
Secondary Speed	5.00000	mm/min
Strain Endpoint	20.00000	%



Sample ID: B5.mss
 Method: Compresion Daniel.msm

Test Date: 11/10/99
 Operator: MTS

Sample Information:

	Value
Tipo de ensayo	Compresion
Tipo de material	Dent cerámica

Memo:

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Specimen Results:

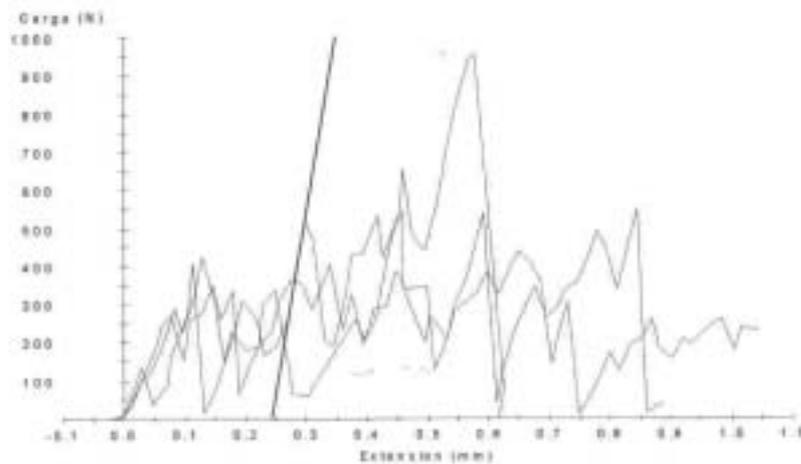
Specimen	Diameter (mm)	Modulus (GPa)	Peak Load (N)	Peak Stress (MPa)
1	6.0	15.49	437.70	15.48
2	6.0	13.34	548.30	19.39
3	6.0	17.18	957.84	33.88
Mean	6.0	15.34	647.95	22.92
Std. Dev.	0.0	1.92	274.01	9.69

Specimen Comments:

Specimen	Comments
1	
2	
3	

Test Inputs:

Name	Value	Units
Break Sensitivity	1	s
Break Threshold	60.00000	s
Data Acq. Rate	2.0	Hz
Extension Endpoint	25.40000	mm
ForceRate	25.000	N/s
Gage Adjustment Pre-Load	25.00000	N
Gage Adjustment Speed	5.00000	mm/min
Initial Speed	2.00000	mm/min
Load Endpoint	4448.00000	N
Outer Loop Rate	100	Hz
Secondary Speed	5.08000	mm/min
Strain Endpoint	20.00000	%



Sample ID: B6.msa
 Method: Compresion Daniel.msm

Test Date: 11/10/00
 Operator: MTS

Sample Information:

	Value
Tipo de ensayo	Compresion
Tipo de material	Dent ceramica

Memo:

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Specimen Results:

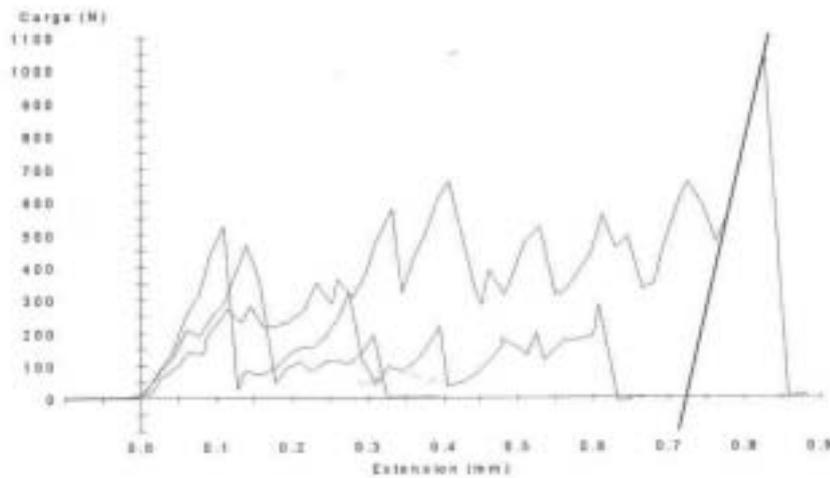
Specimen	Diameter mm	Modulus GPa	Peak Load N	Peak Stress MPa
1	6.0	10.98	463.59	16.40
2	6.0	12.84	521.68	18.45
3	6.0	17.90	1031.70	36.49
Mean	6.0	13.91	672.32	23.78
Std. Dev.	0.0	3.58	312.58	11.06

Specimen Comments:

Specimen	Comments
1	
2	
3	

Test Inputs:

Name	Value	Units
Break Sensitivity	1	s
Break Threshold	60.00000	s
Data Acq. Rate	2.0	Hz
Extension Endpoint	25.40000	mm
ForceRate	25.000	N/s
Gage Adjustment Pre-Load	25.00000	N
Gage Adjustment Speed	5.00000	mm/min
Initial Speed	2.00000	mm/min
Load Endpoint	4448.00000	N
Outer Loop Rate	100	Hz
Secondary Speed	5.08000	mm/min
Strain Endpoint	20.00000	%



Sample ID: B8.mss
 Method: Compresion Daniel.msm

Test Date: 11/10/00
 Operator: MTS

Sample Information:

	Value
Tipo de ensayo	Compresion
Tipo de material	Dent cerámica

Memo:

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Specimen Results:

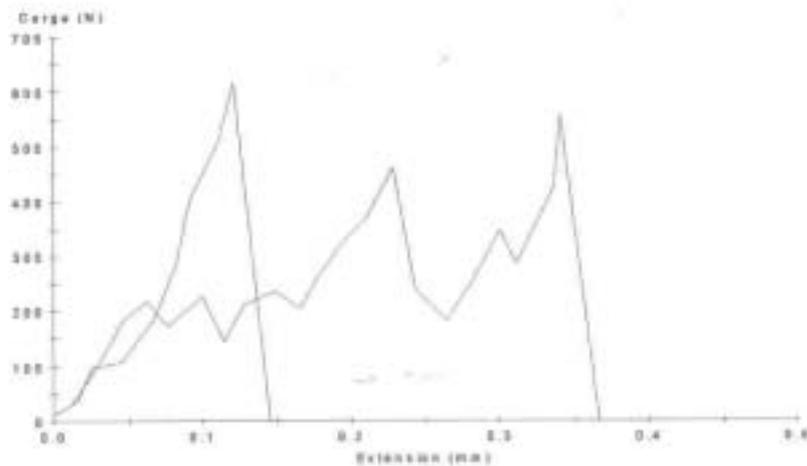
Specimen	Diameter mm	Modulus GPa	Peak Load N	Peak Stress MPa
1	6.0	15.78	616.16	21.79
2	6.0	7.95	556.65	19.69
3	6.0	13.34	456.96	16.16
Mean	6.0	12.36	543.26	19.21
Std. Dev.	0.0	4.01	80.44	2.84

Specimen Comments:

Specimen	Comments
1	
2	
3	

Test Inputs:

Name	Value	Units
Break Sensitivity	1	s
Break Threshold	60.00000	s
Data Acq. Rate	2.0	Hz
Extension Endpoint	25.40000	mm
ForceRate	25.000	N/s
Gage Adjustment Pre-Load	25.00000	N
Gage Adjustment Speed	5.00000	mm/min
Initial Speed	2.00000	mm/min
Load Endpoint	4448.00000	N
Outer Loop Rate	100	Hz
Secondary Speed	5.08000	mm/min
Strain Endpoint	20.00000	%



9.1.3. Cerámica convencional.

Sample ID: Cl.mss
 Method: Compresion Daniel.msm

Test Date: 13/10/00
 Operator: MTS

Sample Information:

	Value
Tipo de ensayo	Compresion
Tipo de material	Dent cerámica

Memo:

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Specimen Results:

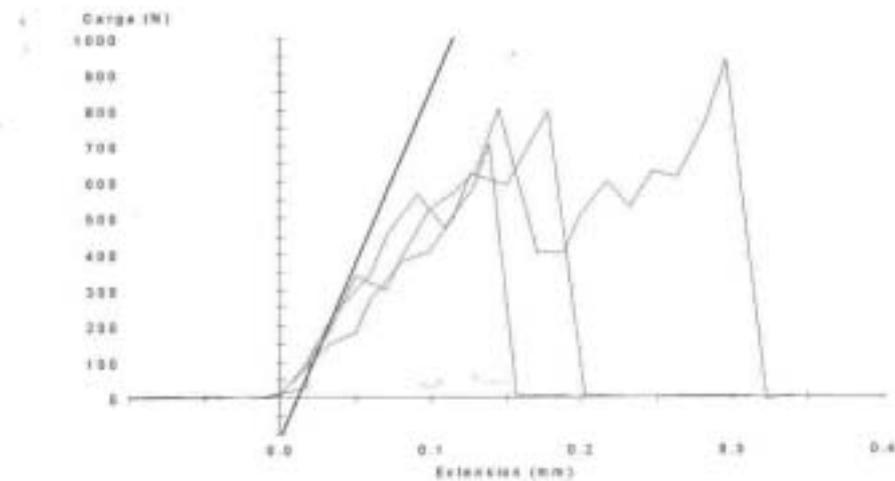
Specimen num	Diameter mm	Modulus GPa	Peak Load N	Peak Stress MPa
1	6.0	13.88	939.22	33.22
2	6.0	13.90	798.36	28.24
3	6.0	17.17	707.36	25.02
Mean	6.0	14.98	814.98	28.82
Std. Dev.	0.0	1.90	116.82	4.13

Specimen Comments:

Specimen num	Comments
1	
2	
3	

Test Inputs:

Name	Value	Units
Break Sensitivity	1	s
Break Threshold	60.00000	s
Data Acq. Rate	2.0	Hz
Extension Endpoint	25.40000	mm
ForceRate	25.000	N/s
Gage Adjustment Pre-Load	25.00000	N
Gage Adjustment Speed	5.00000	mm/min
Initial Speed	2.00000	mm/min
Load Endpoint	4448.00000	N
Outer Loop Rate	100	Hz
Secondary Speed	5.08000	mm/min
Strain Endpoint	20.00000	%



Sample ID: C2.msa
 Method: Compresion Daniel.msm

Test Date: 13/10/00
 Operator: MTS

Sample Information:

Valor	
Tipo de ensayo	Compresion
Tipo de material	Dent cerámica

Memo:

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Specimen Results:

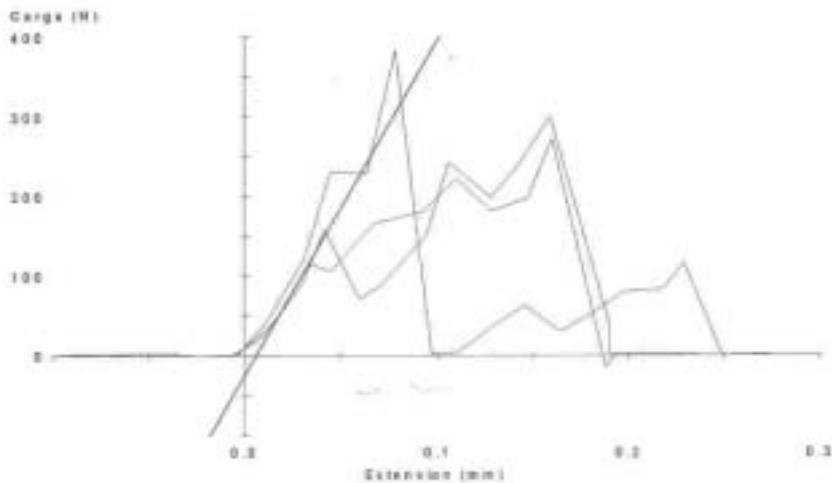
Specimen	Diameter mm	Modulus GPa	Peak Load N	Peak Stress MPa
1	6.0	13.63	382.38	13.52
2	6.0	13.59	299.48	10.59
3	6.0	7.56	272.68	9.64
Mean	6.0	11.59	318.18	11.25
Std. Dev.	0.0	3.49	57.19	2.02

Specimen Comments:

Specimen	Comments
1	
2	
3	

Test Inputs:

Name	Value	Units
Break Sensitivity	1	s
Break Threshold	60.00000	s
Data Acq. Rate	2.0	Hz
Extension Endpoint	25.40000	mm
ForceRate	25.000	N/s
Gage Adjustment Pre-Load	25.00000	N
Gage Adjustment Speed	5.00000	mm/min
Initial Speed	2.00000	mm/min
Load Endpoint	4448.00000	N
Outer Loop Rate	100	Hz
Secondary Speed	5.08000	mm/min
Strain Endpoint	20.00000	%



Sample ID: C3.msx
 Method: Compresion Daniel.ms08

Test Date: 13/10/00
 Operator: MTS

Sample Information:

	Value
Tipo de ensayo	Compresion
Tipo de material	Dent cerámica

Memo:

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Specimen Results:

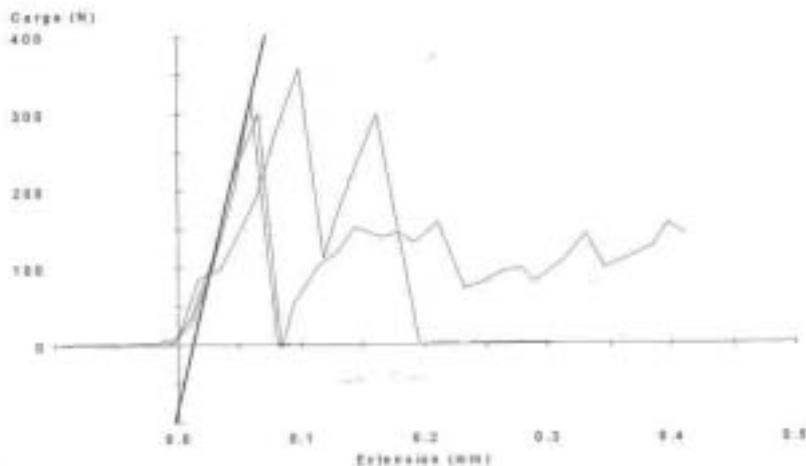
Specimen #	Diameter mm	Modulus GPa	Peak Load N	Peak Stress MPa
1	6.0	10.60	321.57	11.37
2	6.0	10.45	358.11	12.66
3	6.0	11.93	299.20	10.58
Mean	6.0	10.99	326.30	11.54
Std. Dev.	0.0	0.81	29.74	1.05

Specimen Comments:

Specimen #	Comments
1	
2	
3	

Test Inputs:

Name	Value	Units
Break Sensitivity	1	s
Break Threshold	60.00000	n
Data Acq. Rate	2.0	Hz
Extension Endpoint	25.40000	mm
ForceRate	25.000	N/s
Gage Adjustment Pre-Load	25.00000	N
Gage Adjustment Speed	5.00000	mm/min
Initial Speed	2.00000	mm/min
Load Endpoint	4448.00000	N
Outer Loop Rate	100	Hz
Secondary Speed	5.00000	mm/min
Strain Endpoint	20.00000	%



Sample ID: C4.mss
 Method: Compression Daniel.msm

Test Date: 13/10/00
 Operator: MTS

Sample Information:

	Value
Tipo de ensayo	Compression
Tipo de material	Dent ceràmica

Memo:

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Specimen Results:

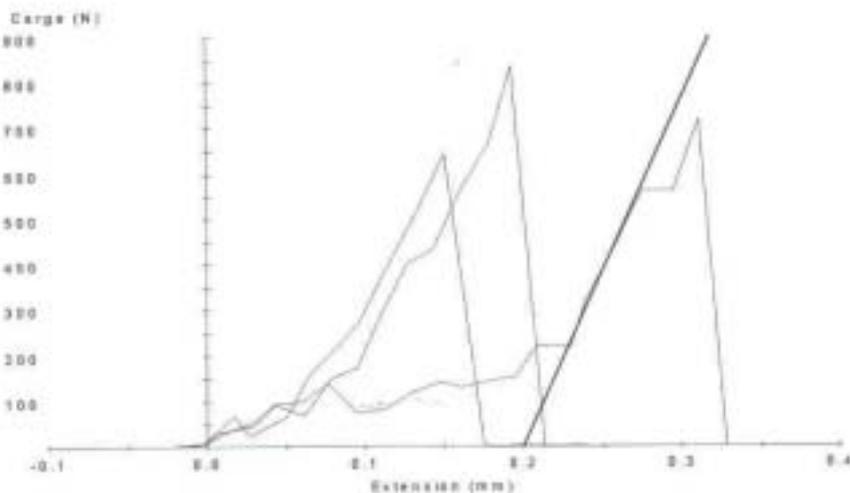
Specimen	Diameter mm	Modulus GPa	Peak Load N	Peak Stress MPa			
1	6.0	12.18	646.30	22.86			
2	6.0	15.30	836.65	29.59			
3	6.0	13.75	720.22	25.47			
Mean	6.0	13.74	734.39	25.97			
Std. Dev.	0.0	1.56	95.96	3.39			

Specimen Comments:

Specimen	Comments
1	
2	
3	

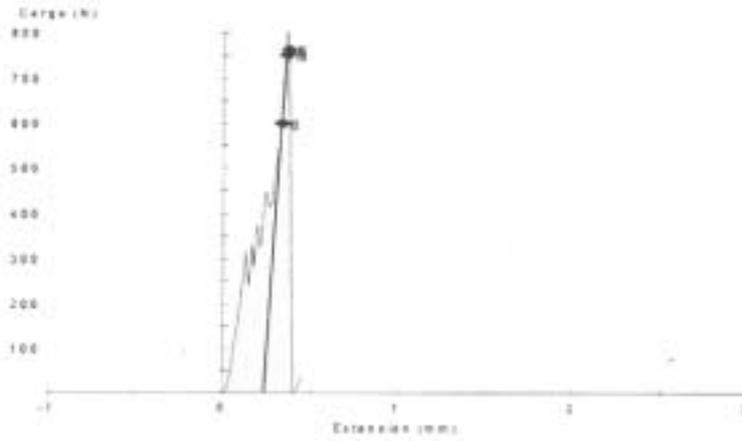
Test Inputs:

Name	Value	Units
Break Sensitivity	1	s
Break Threshold	60.00000	s
Data Acq. Rate	2.0	Hz
Extension Endpoint	25.40000	mm
ForceRate	25.000	N/s
Gage Adjustment Pro-Load	25.00000	N
Gage Adjustment Speed	5.00000	mm/min
Initial Speed	2.00000	mm/min
Load Endpoint	4448.00000	N
Outer Loop Rate	100	Hz
Secondary Speed	5.08000	mm/min
Strain Endpoint	20.00000	%



9.1.4.3M™ Block EXM 260.

Sample ID: D1.mss
 Specimen Number: 2
 Tagged: False

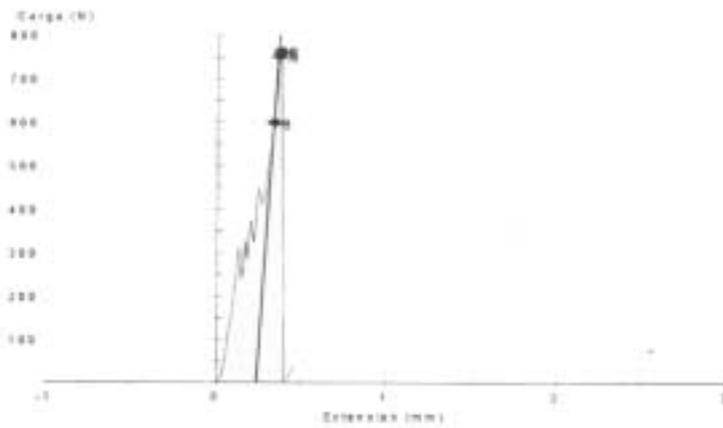


Specimen Results:

Name	Value	Units
Diameter	6.0	mm
Modulus	11.39	GPa
Peak Load	763.22	N
Peak Stress	26.99	MPa

Specimen Comment:

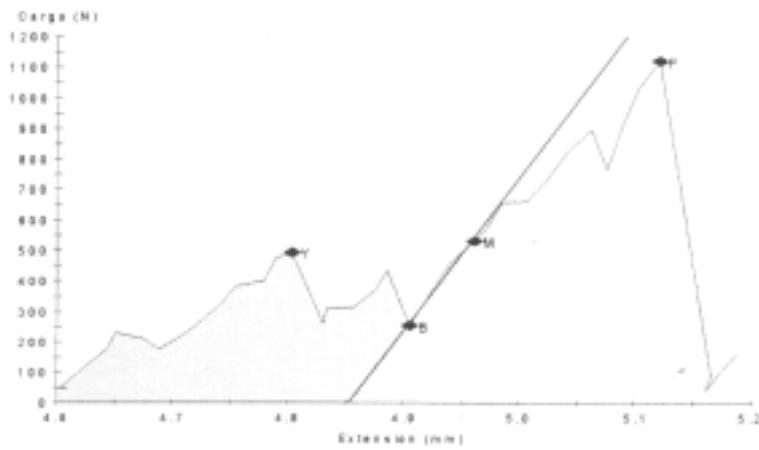
Sample ID: D1.mss
Specimen Number: 2
Tagged: False

**Specimen Results:**

Name	Value	Units
Diameter	6.0	mm
Modulus	11.39	GPa
Peak Load	763.22	N
Peak Stress	26.99	MPa

Specimen Comment:

Sample ID: D2.mss
 Specimen Number: 2
 Tagged: False

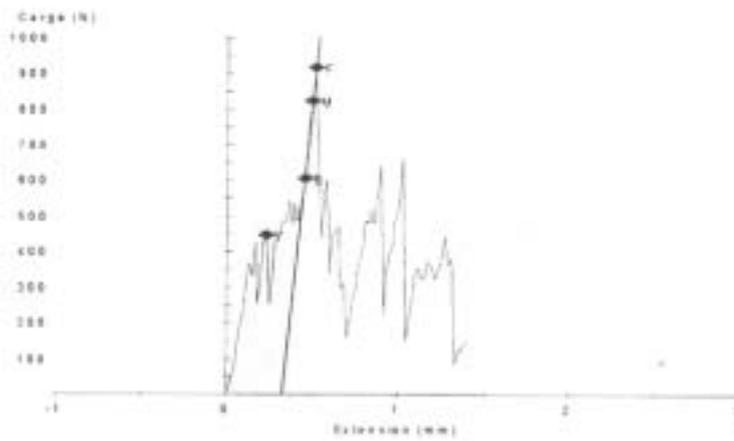


Specimen Results:

Name	Value	Units
Diameter	6.0	mm
Modulus	8.99	GPa
Peak Load	1123.10	N
Peak Stress	39.72	MPa

Specimen Comment:

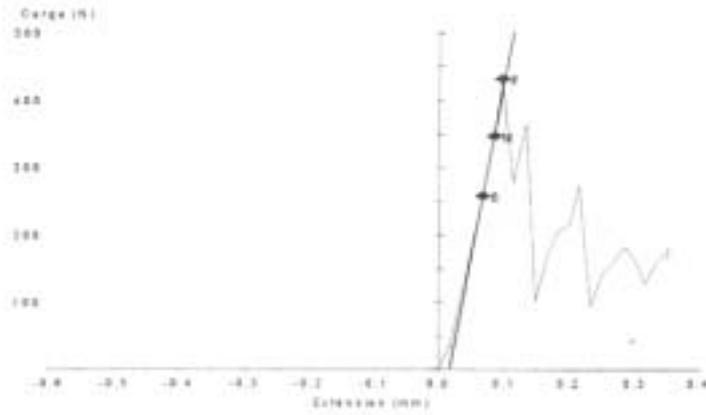
Sample ID: D2.mss
Specimen Number: 1
Tagged: False

**Specimen Results:**

Name	Value	Units
Diameter	6.0	mm
Modulus	8.98	GPa
Peak Load	918.81	N
Peak Stress	32.50	MPa

Specimen Comment:

Sample ID: D3.mss
 Specimen Number: 1
 Tagged: False

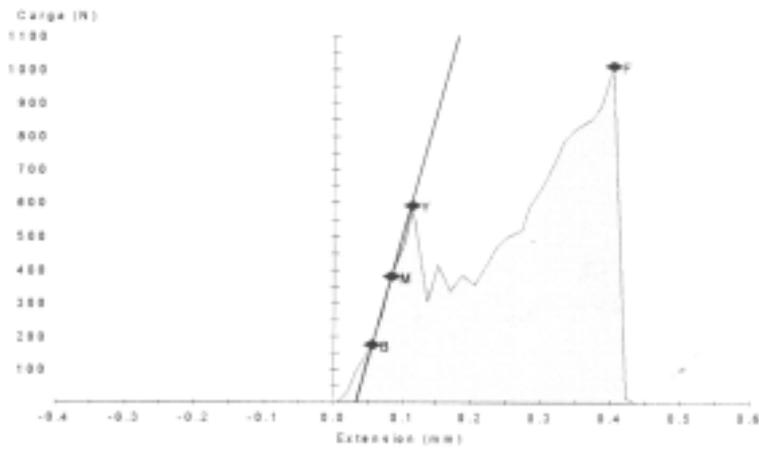


Specimen Results:

Name	Value	Units
Diameter	6.0	mm
Modulus	9.27	GPa
Peak Load	432.06	N
Peak Stress	15.28	MPa

Specimen Comment:

Sample ID: D3.mss
 Specimen Number: 2
 Tagged: False

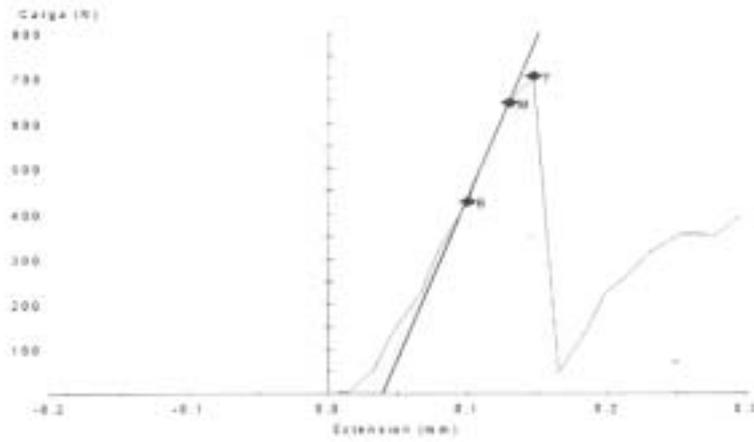


Specimen Results:

Name	Value	Units
Diameter	6.0	mm
Modulus	13.49	GPa
Peak Load	1011.53	N
Peak Stress	35.78	MPa

Specimen Comment:

Sample ID: D4.mss
 Specimen Number: 1
 Tagged: False

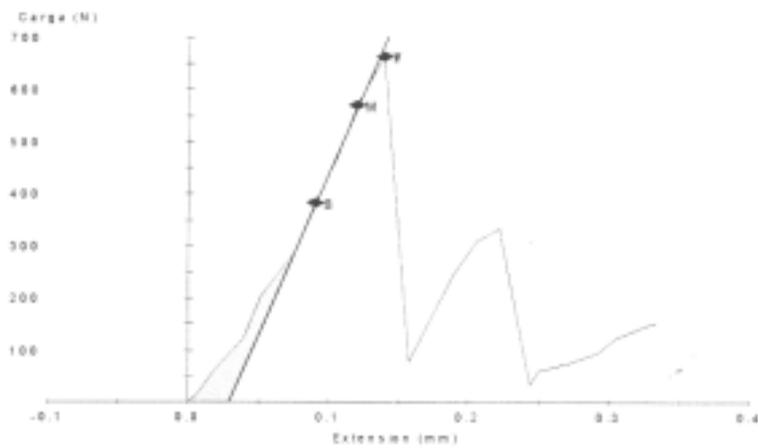


Specimen Results:

Name	Value	Units
Diameter	6.0	mm
Modulus	12.94	GPa
Peak Load	704.47	N
Peak Stress	24.92	MPa

Specimen Comment:

Sample ID: D4.mss
Specimen Number: 2
*Tagged: False

**Specimen Results:**

Name	Value	Units
Diameter	6.0	mm
Modulus	11.22	GPa
Peak Load	664.98	N
Peak Stress	23.52	MPa

Specimen Comment:

Sample ID: D1.ms
 Method: Compression Daniel mem

Test Date: 30/5/01
 Operator: MTS

Sample Information:

	Value
Nombre de maestra	serie D1
Tipo de material	Dent cerámica

Memo:

--

Specimen Results:

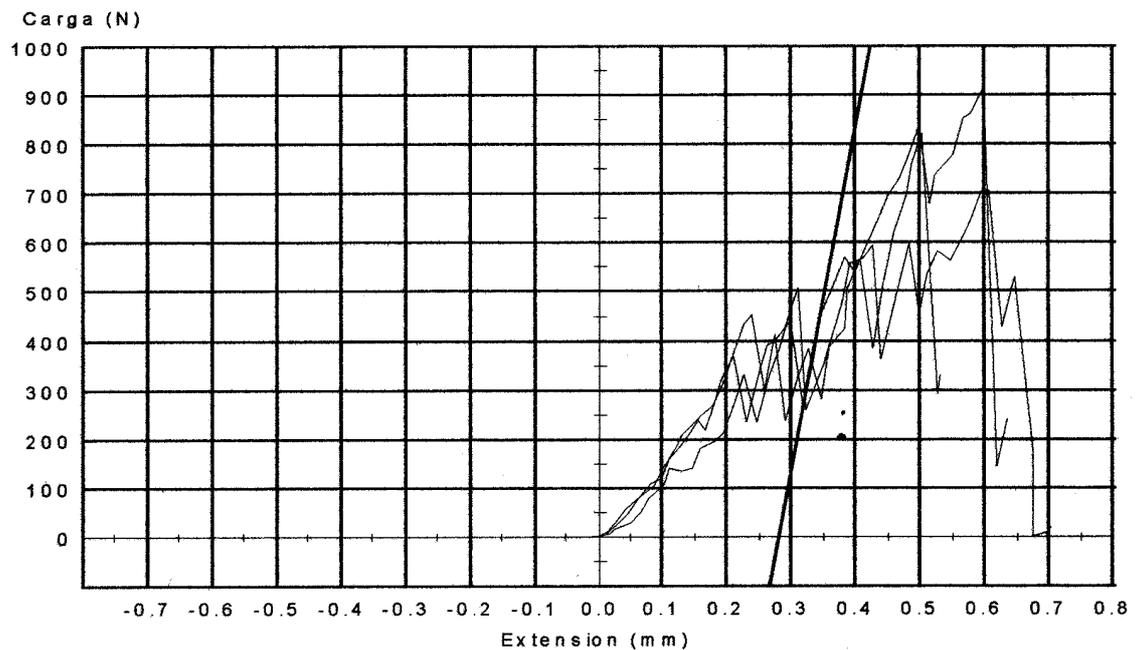
Specimen	Diameter mm	Modulus GPa	Peak Load N	Peak Stress MPa
1	6.0	12.45	823.24	29.12
2	6.0	8.28	705.71	24.96
3	6.0	12.88	916.29	32.41
Mean	6.0	11.20	815.08	28.83
Std. Dev.	0.0	2.54	105.53	3.73

Specimen Comments:

Specimen	Comments
1	
2	
3	

Test Inputs:

Name	Value	Units
Break Sensitivity	1	s
Break Threshold	60.00000	s
Data Acq. Rate	2.0	Hz
Extension Endpoint	25.40000	mm
ForceRate	25.000	N/s
Gage Adjustment Pre-Load	25.00000	N
Gage Adjustment Speed	5.00000	mm/min
Initial Speed	2.00000	mm/min
Load Endpoint	4448.00000	N
Outer Loop Rate	100	Hz
Secondary Speed	5.08000	mm/min
Strain Endpoint	20.00000	%



Sample ID: D2.rms
 Method: Compression Daniel.rms

Test Date: 30/5/01
 Operator: MTS

Sample Information:

Value	
Nombre de muestra	serie D2
Tipo de material	Dent cerámica

Memo:

--

Specimen Results:

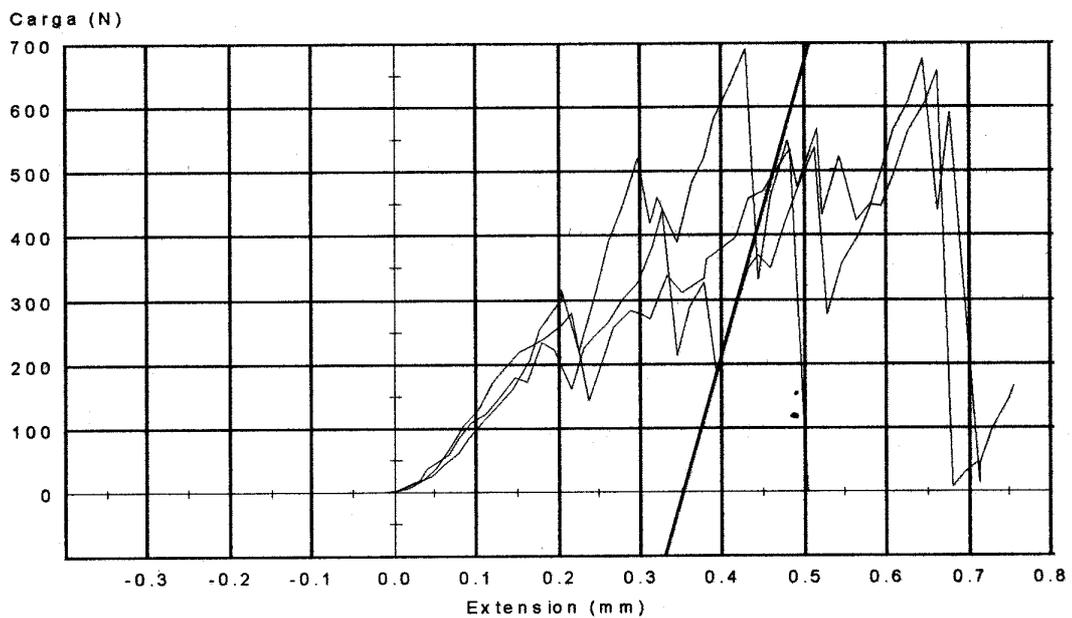
Specimen	Diameter mm	Modulus GPa	Peak Load N	Peak Stress MPa
1	6.0	8.26	690.74	24.43
2	6.0	6.68	535.61	18.94
3	6.0	8.14	655.99	23.20
Mean	6.0	7.69	627.45	22.19
Std. Dev.	0.0	0.88	81.41	2.88

Specimen Comments:

Specimen	Comments
1	
2	
3	

Test Inputs:

Name	Value	Units
Break Sensitivity	1	s
Break Threshold	60.00000	s
Data Acq. Rate	2.0	Hz
Extension Endpoint	25.40000	mm
ForceRate	25.000	N/s
Gage Adjustment Pre-Load	25.00000	N
Gage Adjustment Speed	5.00000	mm/min
Initial Speed	2.00000	mm/min
Load Endpoint	4448.00000	N
Outer Loop Rate	100	Hz
Secondary Speed	5.00000	mm/min
Strain Endpoint	20.00000	%



Sample ID: D3.ans
 Method: Compression Dental avon

Test Date: 30/5/01
 Operator: MTS

Sample Information:

	Value
Nombre de muestra	serie D3
Tipo de material	Dent cerámica

Memo:

--

Specimen Results:

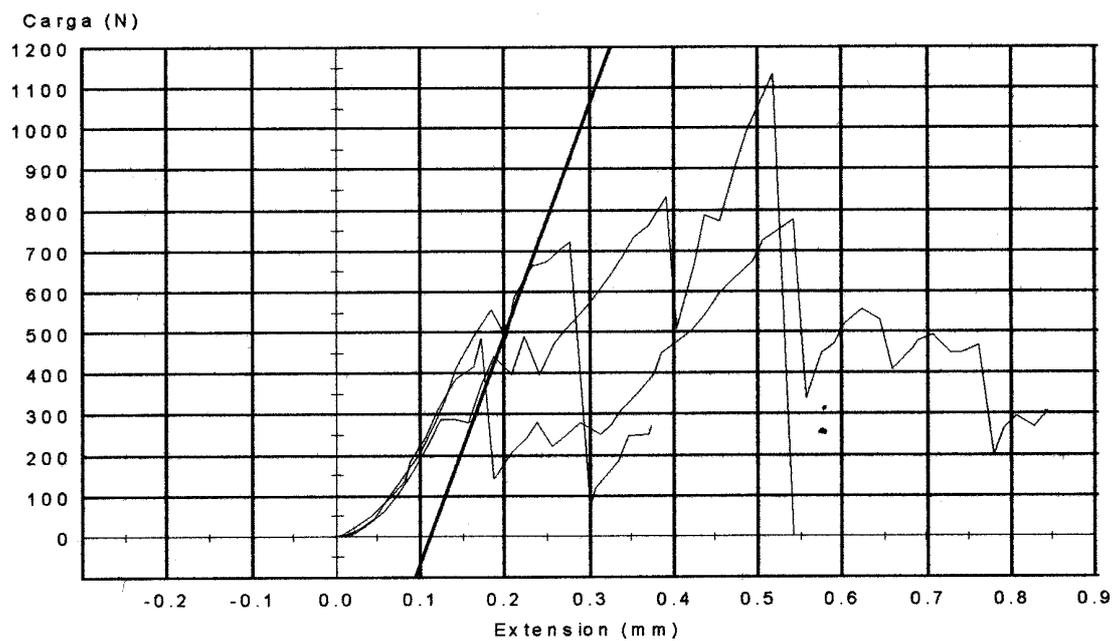
Specimen	Diameter (mm)	Modulus (GPa)	Peak Load (N)	Peak Stress (MPa)
1	6.0	7.50	775.45	27.43
2	6.0	15.67	1132.69	40.06
3	6.0	10.03	721.65	25.52
Mean	6.0	11.07	876.60	31.00
Std. Dev.	0.0	4.18	223.41	7.90

Specimen Comments:

Specimen	Comments
1	
2	
3	

Test Inputs:

Name	Value	Units
Break Sensitivity	1	s
Break Threshold	60.00000	s
Data Acq. Rate	2.0	Hz
Extension Endpoint	25.40000	mm
ForceRate	25.000	N/s
Gage Adjustment Pre-Load	25.00000	N
Gage Adjustment Speed	5.00000	mm/min
Initial Speed	2.00000	mm/min
Load Endpoint	4448.00000	N
Outer Loop Rate	100	Hz
Secondary Speed	5.08000	mm/min
Strain Endpoint	20.00000	%



Sample ID: D4.ms
 Method: Compresion Dental mem

Test Date: 30-5-01
 Operator: MTS

Sample Information:

	Value
Nombre de muestra	serie D4
Tipo de material	Dent carionica

Memo:

--

Specimen Results:

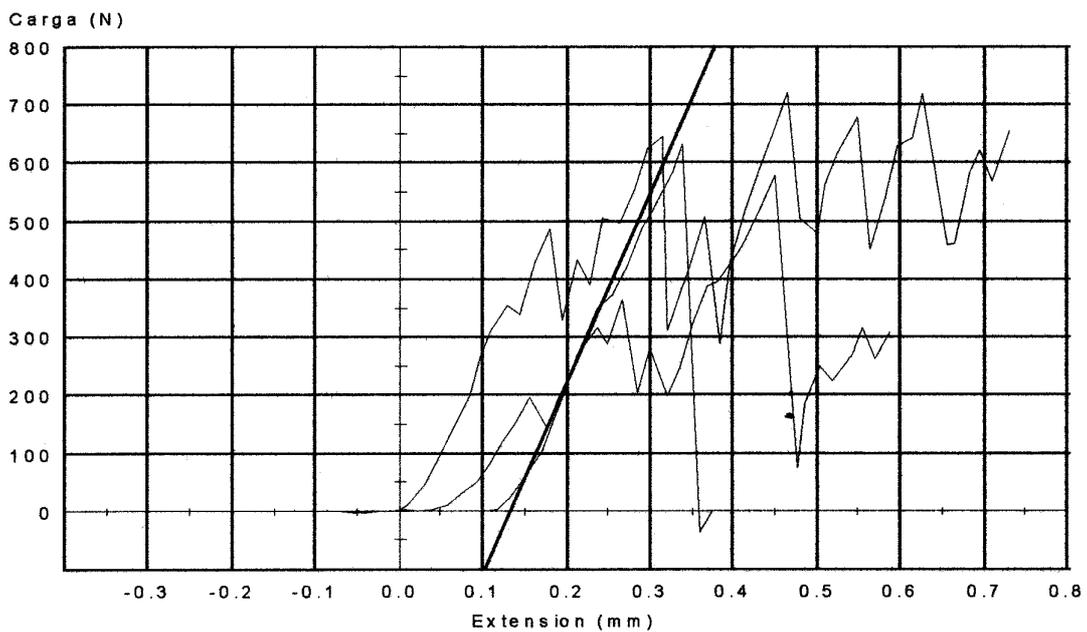
Specimen	Diameter mm	Modulus GPa	Peak Load N	Peak Stress MPa
1	6.0	7.39	579.17	20.48
2	6.0	7.89	720.08	25.47
3	6.0	5.90	630.87	22.31
Mean	6.0	7.06	643.38	22.75
Std. Dev.	0.0	1.04	71.28	2.52

Specimen Comments:

Specimen	Comments
1	
2	
3	

Test Inputs:

Name	Value	Units
Break Sensitivity	1	s
Break Threshold	60.00000	s
Data Acq. Rate	2.0	Hz
Extension Endpoint	25.40000	mm
ForceRate	25.000	N/s
Gage Adjustment Pre-Load	25.00000	N
Gage Adjustment Speed	5.00000	mm/min
Initial Speed	2.00000	mm/min
Load Endpoint	4448.00000	N
Outer Loop Rate	100	Hz
Secondary Speed	5.08000	mm/min
Strain Endpoint	20.00000	%



9.2. ESTADÍSTICA.

9.2.1. Análisis de Varianza.

9.2.2. Estudio estadístico entre los grupos A, B, y C.

9.2.2.1. Carga compresiva a rotura.

9.2.2.2. Elasticidad.

9.2.2.3. Dureza.

9.2.2.4. Rugosidad.

9.2.2.5. Desgaste.

9.2.3. Estudio estadístico entre los grupos A, B y D.

9.2.3.1. Carga compresiva a rotura.

9.2.3.2. Elasticidad.

9.2.3.3. Dureza.

9.2.3.4. Rugosidad.

9.2.3.5. Desgaste.

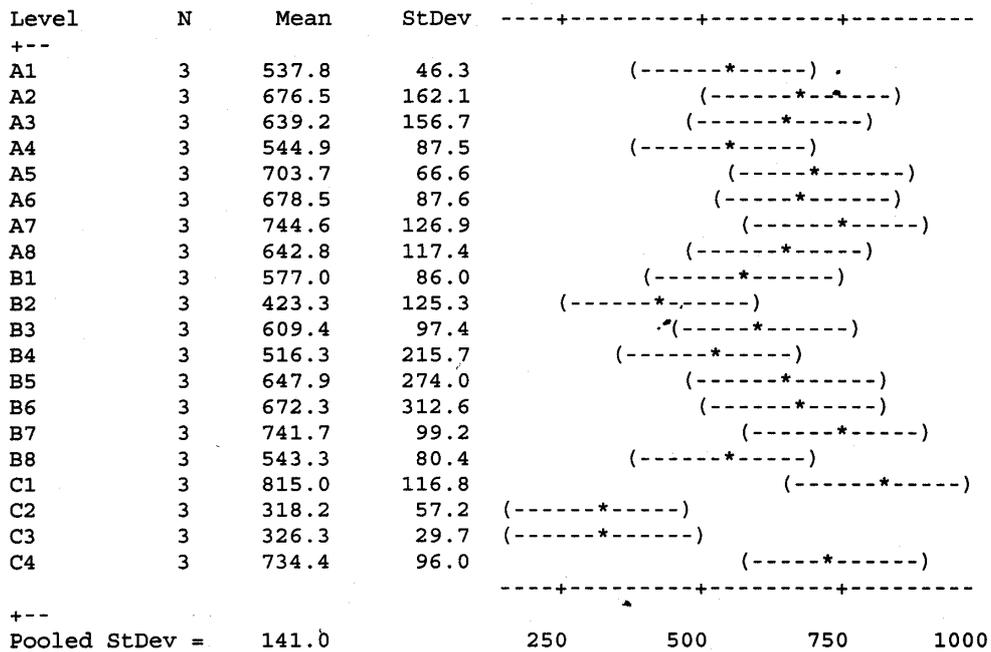
9.2.1. Análisis de Varianza.

One-Way Analysis of Variance

Analysis of Variance			
Source	DF	SS	MS
Factor	19	1025562	53977
Error	40	795665	19892
Total	59	1821228	

F 2.71 P 0.004

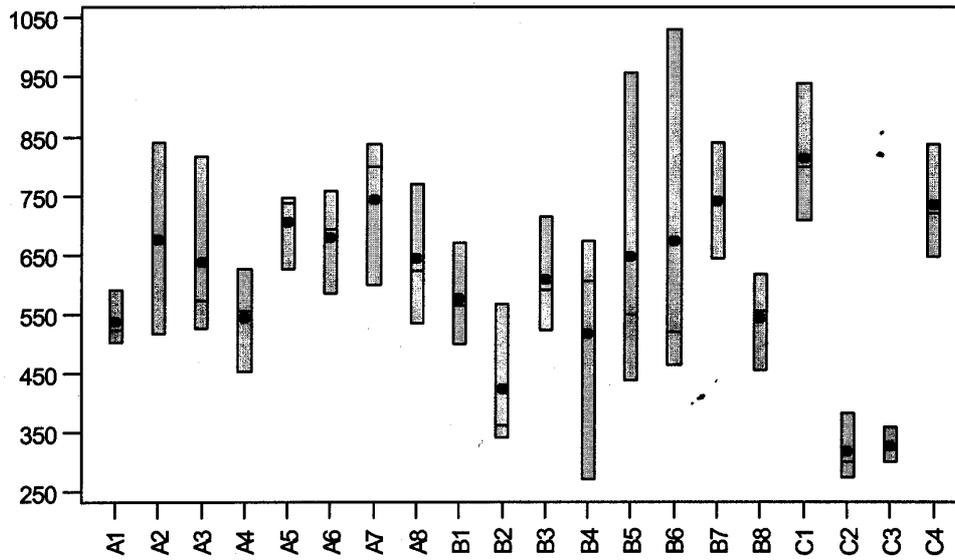
Individual 95% CIs For Mean
Based on Pooled StDev



Para un p-valor del 0,05 (una confianza del 95%) se puede decir que los valores de resistencia a compresión de las diferentes series de dientes presentan diferencias estadísticamente significativas.

Boxplot de los intervalos de confianza del 95% para las diferentes series:

Boxplots of A1 - C4
(means are indicated by solid circles)



One-Way Analysis of Variance

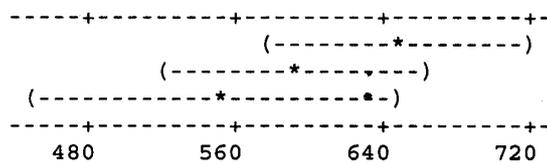
Analysis of Variance

Source	DF	SS	MS	F	P
Factor	2	83126	41563	1.36	0.264
Error	57	1738101	30493		
Total	59	1821228			

Level	N	Mean	StDev
A	24	646.0	117.3
B	24	591.4	179.8
C	12	548.5	248.3

Pooled StDev = 174.6

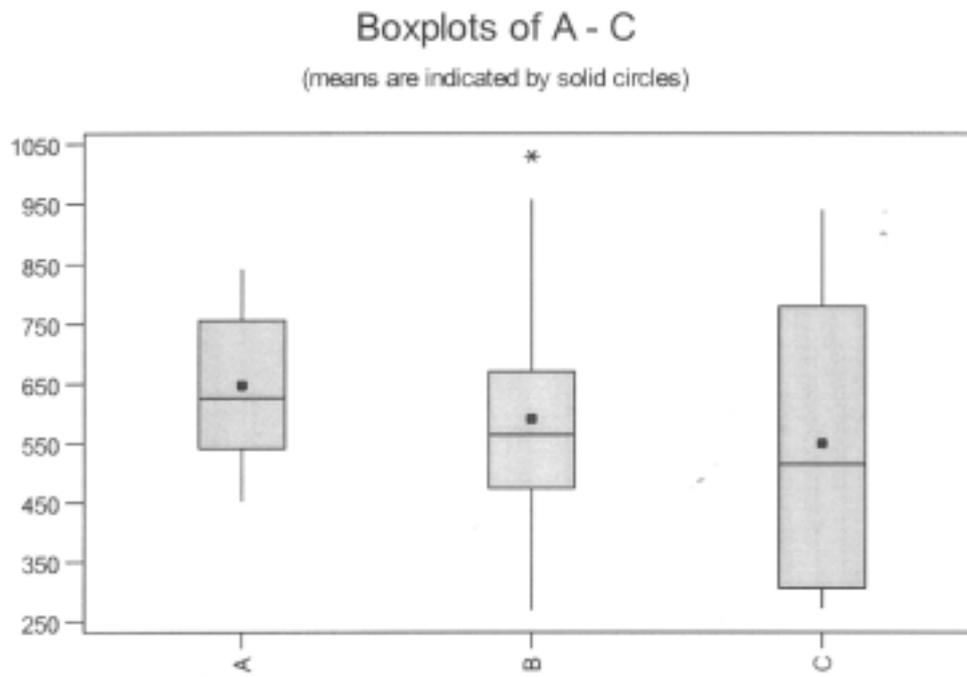
Individual 95% CIs For Mean
Based on Pooled StDev



Para un p-valor del 0,05 (una confianza del 95%) se puede decir que los valores de resistencia a compresión de las series A, B y C no presentan diferencias estadísticamente significativas ($p > 0,05$).

Boxplot de los intervalos de confianza del 95% para las diferentes series:

**



9.2.2. Estudio estadístico entre los grupos A, B, y C.

9.2.2.1. Carga compresiva a rotura.

9.2.2.2. Elasticidad.

9.2.2.3. Dureza.

9.2.2.4. Rugosidad.

9.2.2.5. Desgaste.

9.2.2.1.Carga compresiva a rotura.

26/01/03 15:36

One-Way ANOVA on col(A) -> col(B):

Data	Mean	Variance	N
A	645,75	5299,92857	8
B	591,125	9854,69643	8

F = 1,57517

p = 0,23

At the 0,05 level,
the means are NOT significantly different.

26/01/03 15:37

One-Way ANOVA on col(A) -> col(C):

Data	Mean	Variance	N
A	645,75	5299,92857	8
B	591,125	9854,69643	8
C	548,25	69356,25	4

F = 0,74947

p = 0,4876

At the 0,05 level,
the means are NOT significantly different.

26/01/03 15:37

One-Way ANOVA on col(B) -> col(C):

Data	Mean	Variance	N
B	591,125	9854,69643	8
C	548,25	69356,25	4

F = 0,17694

p = 0,68292

At the 0,05 level,
the means are NOT significantly different.

9.2.2.2.Elasticidad.

26/01/03 15:40

One-Way ANOVA on col(A) -> col(B):

Data	Mean	Variance	N
A	7511,125	837409,26786	8
B	4762,75	626915,92857	8

F = 41,26715
 p = 1,5899E-5

At the 0,05 level,
 the means are significantly different.

26/01/03 15:41

One-Way ANOVA on col(B) -> col(C):

Data	Mean	Variance	N
B	4762,75	626915,92857	8
C	6940,25	426106,91667	4

F = 22,31271
 p = 8,11962E-4

At the 0,05 level,
 the means are significantly different.

26/01/03 15:42

One-Way ANOVA on col(A) -> col(c):

Data	Mean	Variance	N
A	7511,125	837409,26786	8
c	6940,25	426106,91667	4

F = 1,21714
 p = 0,29576

At the 0,05 level,
 the means are NOT significantly different.

9.2.2.3.Dureza.

26/01/03 15:44

One-Way ANOVA on col(B) -> col(C):

Data	Mean	Variance	N
B	634,25	3418,21429	8
C	586	1080	4

F = 2,28514

p = 0,16156

At the 0,05 level,
the means are NOT significantly different.

26/01/03 15:44

One-Way ANOVA on col(A) -> col(B):

Data	Mean	Variance	N
A	666,375	1277,69643	8
B	634,25	3418,21429	8

F = 1,75815

p = 0,20608

At the 0,05 level,
the means are NOT significantly different.

26/01/03 15:46

One-Way ANOVA on col(A) -> col(C):

Data	Mean	Variance	N
A	666,375	1277,69643	8
C	586	1080	4

F = 14,13921

p = 0,00372

At the 0,05 level,
the means are significantly different.

26/01/03 15:45

One-Way ANOVA on col(A) -> col(C):

Data	Mean	Variance	N
A	666,375	1277,69643	8
B	634,25	3418,21429	8
C	586	1080	4

F = 4,08709

p = 0,03554

At the 0,05 level,
the means are significantly different.

9.2.2.4.Rugosidad.

23/01/03 15:59

One-Way ANOVA on col(VITAR) -> col(ProcadR):

Data	Mean	Variance	N
VITAR	1,2125	0,33839	8
ProcadR	1,1375	0,22268	8

F = 0,0802
p = 0,78117

At the 0,05 level,
the means are NOT significantly different.

23/01/03 16:00

One-Way ANOVA on col(ProcadR) -> col(CR):

Data	Mean	Variance	N
ProcadR	1,1375	0,22268	8
CR	1,4	0,02	4

F = 1,13514
p = 0,31173

At the 0,05 level,
the means are NOT significantly different.

23/01/03 16:00

One-Way ANOVA on col(VITAR) -> col(CR):

Data	Mean	Variance	N
VITAR	1,2125	0,33839	8
ProcadR	1,1375	0,22268	8
CR	1,4	0,02	4

F = 0,39329
p = 0,68082

At the 0,05 level,
the means are NOT significantly different.

9.2.2.5.Desgaste.

23/01/03 16:05

One-Way ANOVA on col(VITAD) -> col(ProcadD):

Data	Mean	Variance	N
VITAD	0,00308	6,27643E-8	8
ProcadD	0,00297	8,60696E-8	8

F = 0,69549

p = 0,41831

At the 0,05 level,
the means are NOT significantly different.

23/01/03 16:06

One-Way ANOVA on col(ProcadD) -> col(CD):

Data	Mean	Variance	N
ProcadD	0,00297	8,60696E-8	8
CD	0,00225	2,30556E-6	4

F = 1,84489

p = 0,20423

At the 0,05 level,
the means are NOT significantly different.

23/01/03 16:06

One-Way ANOVA on col(VITAD) -> col(CD):

Data	Mean	Variance	N
VITAD	0,00308	6,27643E-8	8
ProcadD	0,00297	8,60696E-8	8
CD	0,00225	2,30556E-6	4

F = 2,12464

p = 0,1501

At the 0,05 level,
the means are NOT significantly different.

23/01/03 16:10

One-Way ANOVA on col(VITAD) -> col(ProcadD) :

Data	Mean	Variance	N
VITAD	0,02255	1,72114E-6	8
ProcadD	0,02699	4,87088E-6	8

F = 23,93767

p = 2,3755E-4

At the 0,05 level,
the means are significantly different.

23/01/03 16:11

One-Way ANOVA on col(ProcadD) -> col(CD) :

Data	Mean	Variance	N
ProcadD	0,02699	4,87088E-6	8
CD	0,02023	5,183E-5	4

F = 6,4277

p = 0,0296

At the 0,05 level,
the means are significantly different.

9.2.3. Estudio estadístico entre los grupos A, B y D.

9.2.3.1. Carga compresiva a rotura.

9.2.3.2. Elasticidad.

9.2.3.3. Dureza.

9.2.3.4. Rugosidad.

9.2.3.5. Desgaste.

9.2.3.1.Carga compresiva a rotura.

```
12/03/03 17:54
One-Way ANOVA on col(A) -> col(D) :
```

Data	Mean	Variance	N
A	645,875	5270,98214	8
B	591,25	9848,21429	8
D	787,5	20792,33333	4

```

F = 5,21806
p = 0,0171
-----
At the 0,05 level,
the means are significantly different.

```

```
12/03/03 17:54
One-Way ANOVA on col(A) -> col(B) :
```

Data	Mean	Variance	N
A	645,875	5270,98214	8
B	591,25	9848,21429	8

```

F = 1,57886
p = 0,22949
-----
At the 0,05 level,
the means are NOT significantly different.

```

```
12/03/03 17:56
One-Way ANOVA on col(B) -> col(D) :
```

Data	Mean	Variance	N
B	591,25	9848,21429	8
D	787,5	20792,33333	4

```

F = 7,82124
p = 0,0189
-----
At the 0,05 level,
the means are significantly different.

```

12/03/03 18:11

One-Way ANOVA on col(A) -> col(D) :

Data	Mean	Variance	N
A	645,875	5259,26786	8
D	787,5	20829,66667	4

F = 5,3862

p = 0,04271

At the 0,05 level,
the means are significantly different.

9.2.3.2.Elasticidad.

12/03/03 18:13

One-Way ANOVA on col(A) -> col(D) :

Data	Mean	Variance	N
A	7636,125	1,19494E6	8
B	4762,75	626915,92857	8
D	4548,75	275672,91667	4

F = 26,12859

p = 6,52928E-6

At the 0,05 level,
the means are significantly different.

12/03/03 18:14

One-Way ANOVA on col(A) -> col(B) :

Data	Mean	Variance	N
A	7636,125	1,19494E6	8
B	4762,75	626915,92857	8

F = 36,25429

p = 3,13863E-5

At the 0,05 level,
the means are significantly different.

12/03/03 18:14

One-Way ANOVA on col(B) -> col(D) :

Data	Mean	Variance	N
B	4762,75	626915,92857	8
D	4548,75	275672,91667	4

F = 0,23416

p = 0,63888

At the 0,05 level,
the means are NOT significantly different.

12/03/03 18:17

One-Way ANOVA on col (A) -> col (D) :

Data	Mean	Variance	N
A	7636,125	1,19494E6	8
D	4548,75	275672,91667	4

F = 27,6538

p = 3,68753E-4

At the 0,05 level,
the means are significantly different.

9.2.3.3.Dureza.

12/03/03 18:19

One-Way ANOVA on col(A) -> col(D) :

Data	Mean	Variance	N
A	666,5	1298,57143	8
B	634,375	3383,41071	8
D	181	78	4

F = 182,65929

p = 3,22253E-12

At the 0,05 level,
the means are significantly different.

12/03/03 18:20

One-Way ANOVA on col(B) -> col(D) :

Data	Mean	Variance	N
B	634,375	3383,41071	8
D	181	78	4

F = 229,17185

p = 3,20079E-8

At the 0,05 level,
the means are significantly different.

12/03/03 18:20

One-Way ANOVA on col(A) -> col(B) :

Data	Mean	Variance	N
A	666,5	1298,57143	8
B	634,375	3383,41071	8

F = 1,76338

p = 0,20545

At the 0,05 level,
the means are NOT significantly different.

12/03/03 18:21

One-Way ANOVA on col(D) -> col(A) :

Data	Mean	Variance	N
D	181	78	4
A	666,5	1298,57143	8

F = 674,13199

p = 1,6522E-10

At the 0,05 level,
the means are significantly different.

9.2.3.4.Rugosidad.

12/03/03 18:24

One-Way ANOVA on col(AA) -> col(D) :

Data	Mean	Variance	N
AA	1,2125	0,33839	8
B	1,1375	0,22268	8
D	1,425	0,03583	4

F = 0,46871

p = 0,63366

At the 0,05 level,
the means are NOT significantly different.

12/03/03 18:42

One-Way ANOVA on col(A) -> col(B) :

Data	Mean	Variance	N
A	1,2125	0,33839	8
B	1,1375	0,22268	8

F = 0,0802

p = 0,78117

At the 0,05 level,
the means are NOT significantly different.

12/03/03 18:38

One-Way ANOVA on col(B) -> col(D) :

Data	Mean	Variance	N
B	1,1375	0,22268	8
D	1,425	0,03583	4

F = 1,32283

p = 0,27685

At the 0,05 level,
the means are NOT significantly different.

12/03/03 19:08

One-Way ANOVA on col(D) -> col(AA) :

Data	Mean	Variance	N
D	1,425	0,03583	4
AA	1,2125	0,33839	8

F = 0,48629

p = 0,50148

At the 0,05 level,
the means are NOT significantly different.

9.2.3.5.Desgaste.

12/03/03 19:13

One-Way ANOVA on col(A) -> col(D) :

Data	Mean	Variance	N
A	0,00308	6,27643E-8	8
B	0,00297	8,60696E-8	8
D	0,02244	8,6047E-6	4

F = 381,56658

p = 7,54952E-15

At the 0,05 level,
the means are significantly different.

12/03/03 19:28

One-Way ANOVA on col(A) -> col(B) :

Data	Mean	Variance	N
A	0,00704	1,27686E-4	8
B	0,00297	8,60696E-8	8

F = 1,03779

p = 0,32562

At the 0,05 level,
the means are NOT significantly different.

12/03/03 19:28

One-Way ANOVA on col(B) -> col(C) :

Data	Mean	Variance	N
B	0,00297	8,60696E-8	8
D	0,02385	8,937E-7	3

F = 3582,58575

p = 5,11147E-13

At the 0,05 level,
the means are significantly different.

12/03/03 19:29

One-Way ANOVA on col(D) -> col(AA) :

Data	Mean	Variance	N
D	0,02385	8,937E-7	3
AA	0,00704	1,27686E-4	8

F = 6,19567

p = 0,03447

At the 0,05 level,
the means are significantly different.

12/03/03 19:33

One-Way ANOVA on col(A) -> col(D) :

Data	Mean	Variance	N
A	0,02255	1,72114E-6	8
B	0,02699	4,87088E-6	8
D	0,09112	8,39262E-5	4

F = 404,27629

p = 4,66294E-15

At the 0,05 level,
the means are significantly different.

One-Way ANOVA on col(A) -> col(B) :

Data	Mean	Variance	N
A	0,02255	1,72114E-6	8
B	0,02699	4,87088E-6	8

F = 23,93767

p = 2,3755E-4

At the 0,05 level,
the means are significantly different.

12/03/03 19:33

One-Way ANOVA on col(B) -> col(D) :

Data	Mean	Variance	N
B	0,02699	4,87088E-6	8
D	0,09112	8,39262E-5	4

F = 383,72212

p = 2,62905E-9

At the 0,05 level,
the means are significantly different.

12/03/03 19:34

One-Way ANOVA on col(D) -> col(A) :

Data	Mean	Variance	N
D	0,09112	8,39262E-5	4
A	0,02255	1,72114E-6	8

F = 475,36712

p = 9,21533E-10

At the 0,05 level,
the means are significantly different.