



## Comparative Tests

## Compressibility Indentation

Doc. PROC- LAB - 011

Data: 08 - 02 - 2011

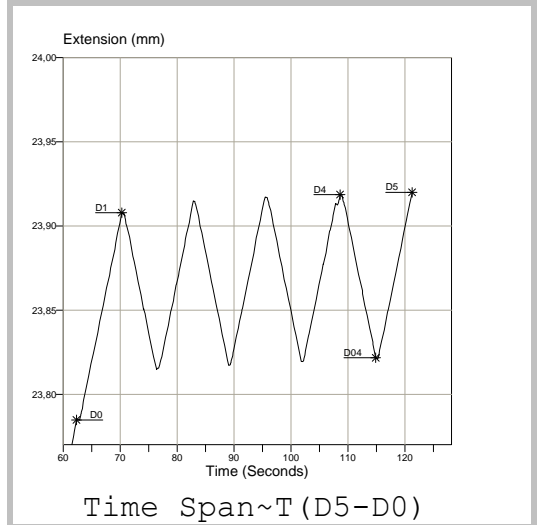
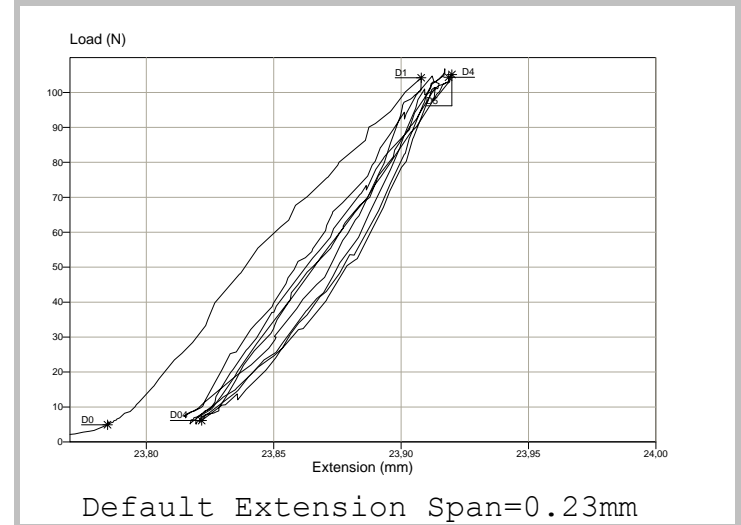
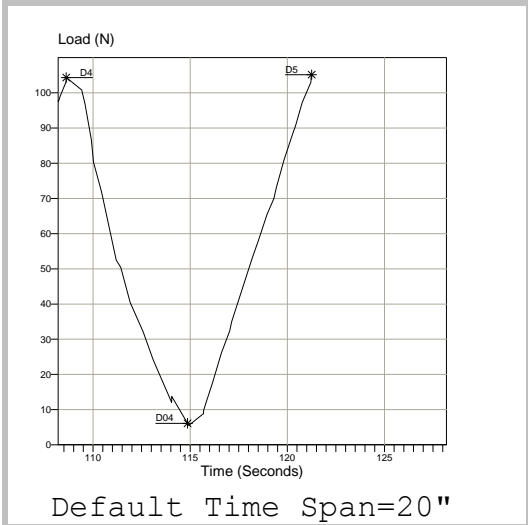
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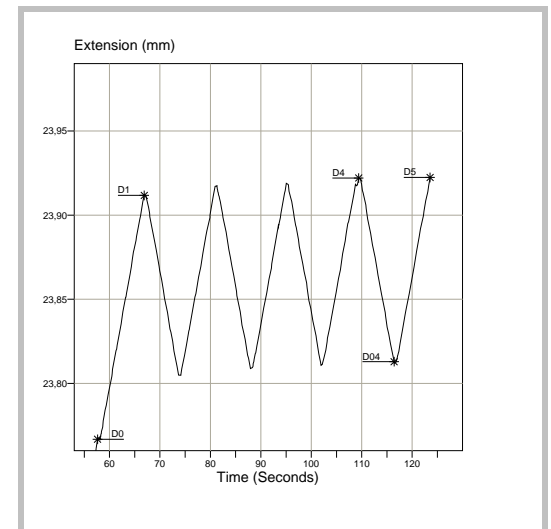
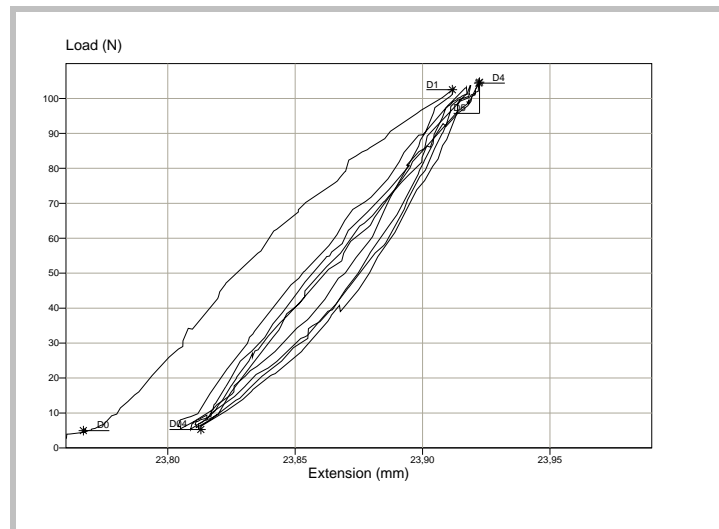
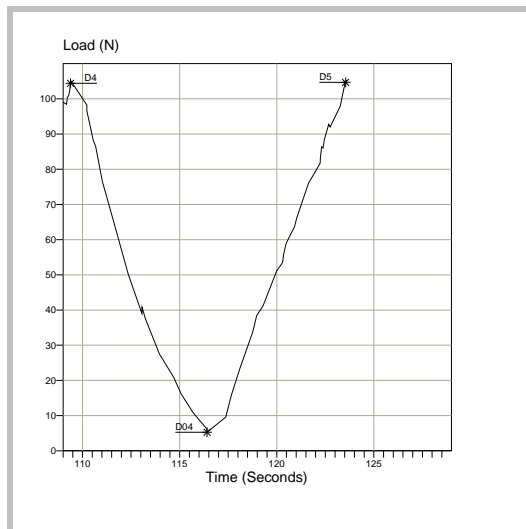
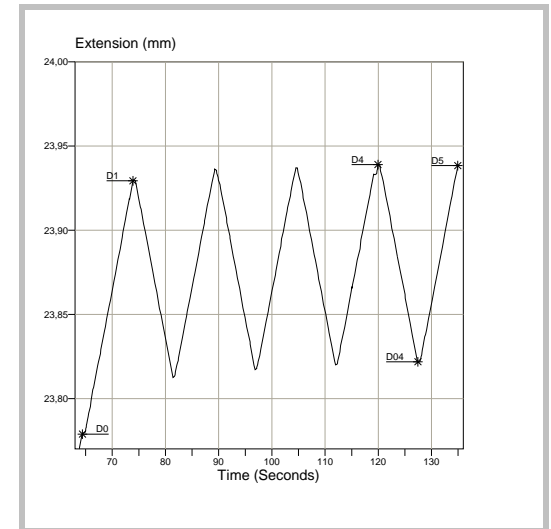
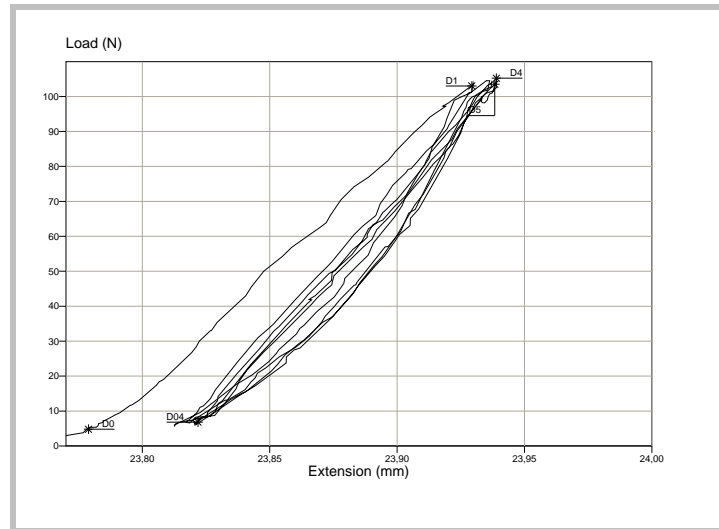
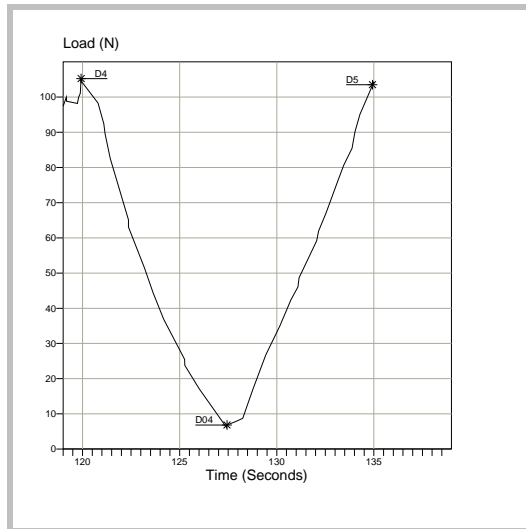
| Item # | Brand/ /Model / Job # | Sample # / Job # | Thickness |       |        |       | Indentation |       |       |       | Comp. Loss % | Gauge Loss @ |            | HE Hysteresis Nmm | Energy Elastic Nmm | Damping Capacity % (DC) | Test Time s |
|--------|-----------------------|------------------|-----------|-------|--------|-------|-------------|-------|-------|-------|--------------|--------------|------------|-------------------|--------------------|-------------------------|-------------|
|        |                       |                  | D0 mm     | D1 mm | D04 mm | D5 mm | I1 μm       | I5 μm | Ip1 % | Ip5 % |              | 60kPa μm     | 1060kPa μm |                   |                    |                         |             |
| 32     | F / I                 | 345P/5036596DU   | 1,97      | 1,85  | 1,94   | 1,84  | 122         | 98    | 6,6   | 5,3   | 20,2         | 36,9         | 12,1       | 0,87              | 5,36               | 16,2                    | 58,9        |
| 33     | F / II                | 352P/5009552BU   | 1,99      | 1,84  | 1,95   | 1,83  | 151         | 117   | 8,2   | 6,4   | 22,6         | 41,9         | 8,6        | 0,65              | 6,14               | 10,5                    | 70,5        |
| 34     | F / III               | 360P/5031295BU   | 1,98      | 1,83  | 1,93   | 1,82  | 146         | 109   | 7,9   | 6,0   | 24,5         | 46,1         | 9,6        | 1,00              | 5,99               | 16,8                    | 65,9        |
| 35     | F / IV                | 297P/509008XDU   | 1,98      | 1,84  | 1,94   | 1,83  | 135         | 107   | 7,3   | 5,9   | 20,9         | 38,7         | 10,7       | 0,86              | 5,73               | 15,1                    | 63,7        |
| 36     | F / V                 | 353P/5028595BU   | 1,97      | 1,83  | 1,93   | 1,82  | 145         | 110   | 7,9   | 6,1   | 23,4         | 46,1         | 11,6       | 0,92              | 6,06               | 15,3                    | 66,8        |
| 37     | F / VI                | 375P/5015693EU   | 1,95      | 1,81  | 1,91   | 1,80  | 142         | 111   | 7,9   | 6,2   | 22,1         | 43,4         | 11,5       | 0,98              | 6,12               | 16,1                    | 66,2        |
| 38     | F / VII               | 303P/5085372BU   | 1,96      | 1,83  | 1,92   | 1,82  | 130         | 105   | 7,1   | 5,8   | 20,2         | 35,9         | 10,2       | 0,72              | 5,66               | 12,7                    | 62,5        |
| 39     | F / VIII              | 347P/5060779AU   | 1,99      | 1,86  | 1,95   | 1,85  | 132         | 104   | 7,1   | 5,6   | 21,1         | 39,2         | 11,5       | 0,83              | 5,76               | 14,4                    | 63,1        |
| 40     | F / IX                | 172 / -          | 1,95      | 1,85  | 1,90   | 1,85  | 94          | 58    | 5,1   | 3,1   | 38,6         | 41,3         | 5,7        | 0,23              | 2,85               | 8,0                     | 38,2        |
| 41     | F / V                 | 387P/5058299CU   | 2,01      | 1,87  | 1,97   | 1,86  | 146         | 109   | 7,8   | 5,9   | 25,7         | 47,3         | 10,1       | 0,86              | 5,70               | 15,0                    | 65,3        |
| 42     | G / I                 | 201P/0306705-4   | 1,95      | 1,77  | 1,91   | 1,76  | 179         | 143   | 10,1  | 8,1   | 19,8         | 43,9         | 8,0        | 1,07              | 7,69               | 13,9                    | 83,6        |
| 43     | G / II                | 214P/5301713-1   | 1,96      | 1,80  | 1,92   | 1,80  | 153         | 124   | 8,5   | 6,9   | 19,1         | 35,5         | 6,6        | 0,74              | 6,68               | 11,1                    | 73,4        |
| 44     | G / III               | 256P/1301411-2   | 1,97      | 1,79  | 1,93   | 1,79  | 173         | 144   | 9,6   | 8,1   | 17,2         | 34,9         | 6,0        | 0,72              | 6,91               | 10,5                    | 84,6        |
| 45     | G / I                 | 306P/046807-4    | 1,98      | 1,77  | 1,93   | 1,76  | 204         | 169   | 11,5  | 9,6   | 17,2         | 45,9         | 11,2       | 1,18              | 8,83               | 13,3                    | 97,9        |
| 46     | G / II                | 362P/0499920-3   | 1,97      | 1,80  | 1,93   | 1,80  | 169         | 138   | 9,4   | 7,7   | 17,0         | 38,6         | 7,9        | 1,35              | 7,51               | 18,0                    | 81,3        |
| 47     | G / II                | 359P/3801806-1   | 1,98      | 1,75  | 1,94   | 1,74  | 233         | 194   | 13,3  | 11,1  | 17,0         | 48,8         | 9,0        | 1,47              | 9,83               | 15,0                    | 112,6       |
| 48     | G / IV                | 86/0701602       | 1,97      | 1,79  | 1,92   | 1,78  | 181         | 139   | 10,2  | 7,8   | 23,0         | 49,9         | 8,0        | 0,93              | 7,16               | 13,0                    | 82,3        |
| 49     | G / IV                | 80/0701602       | 1,96      | 1,79  | 1,92   | 1,78  | 172         | 134   | 9,6   | 7,5   | 22,8         | 45,1         | 6,5        | 0,77              | 6,72               | 11,5                    | 79,0        |

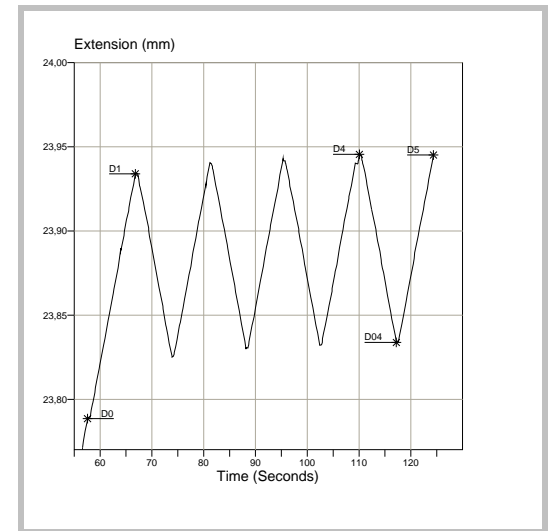
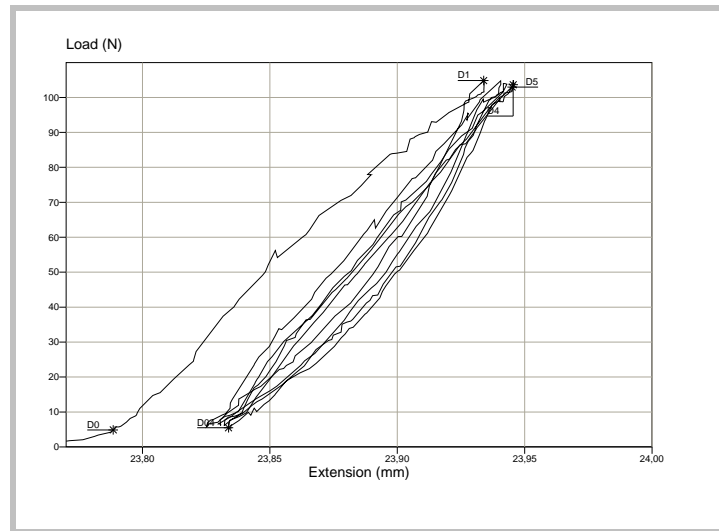
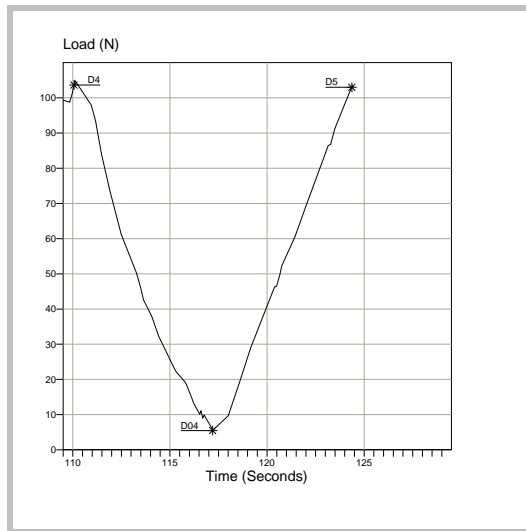
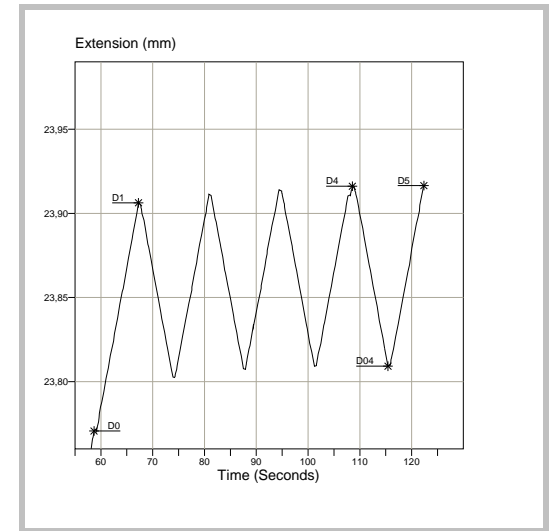
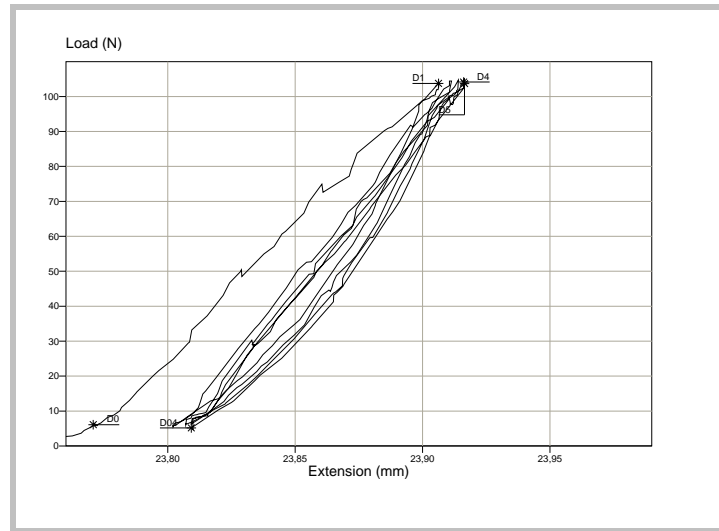
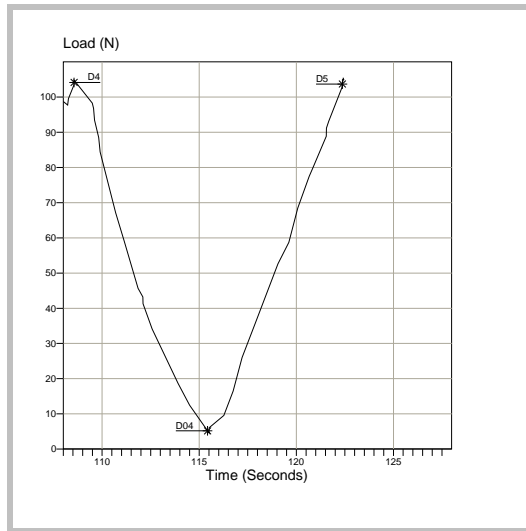
Test standard: ISO 12636 4.5  
 Tester: Lloyd LR 10K Plus (Speed: 1 mm/min)  
 Disk: 11,20 mm Ø Operator: DMiranda  
 Graphs: Row # all

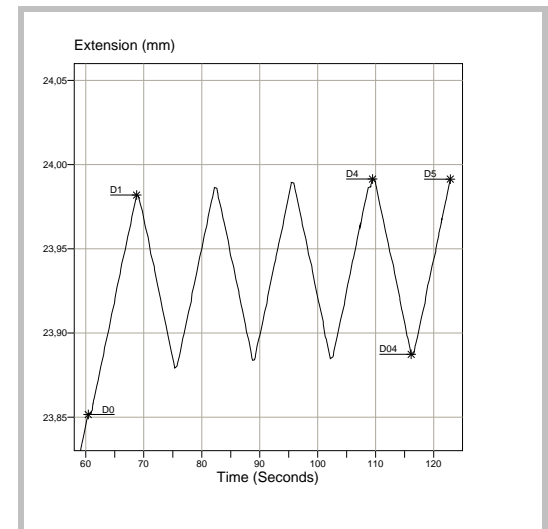
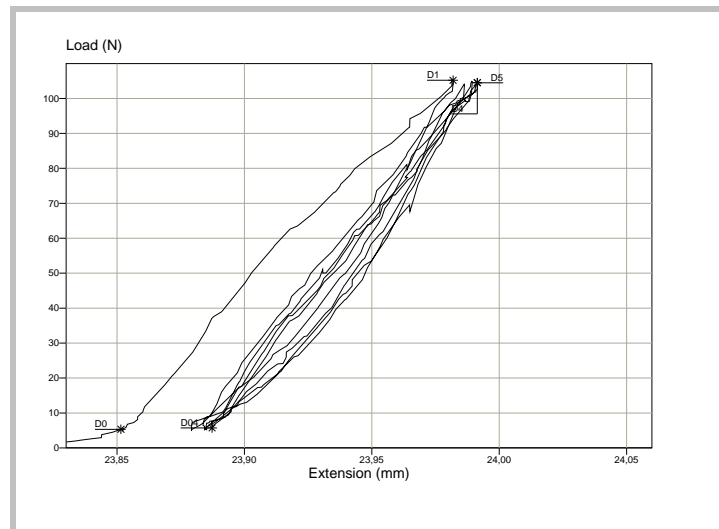
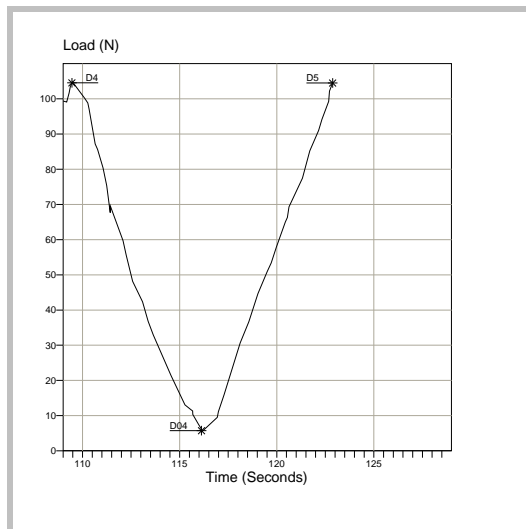
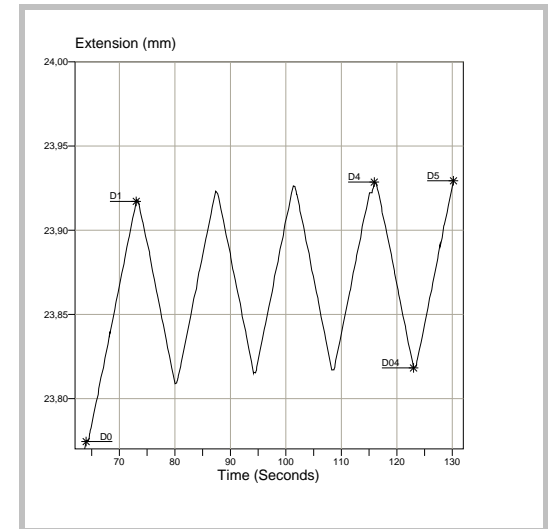
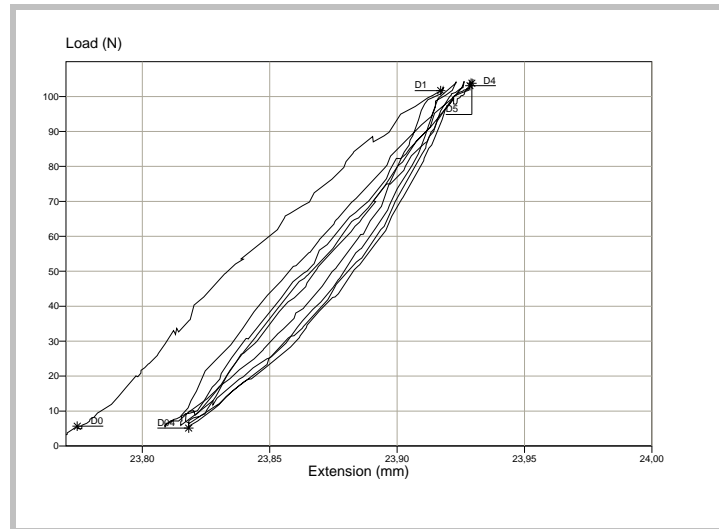
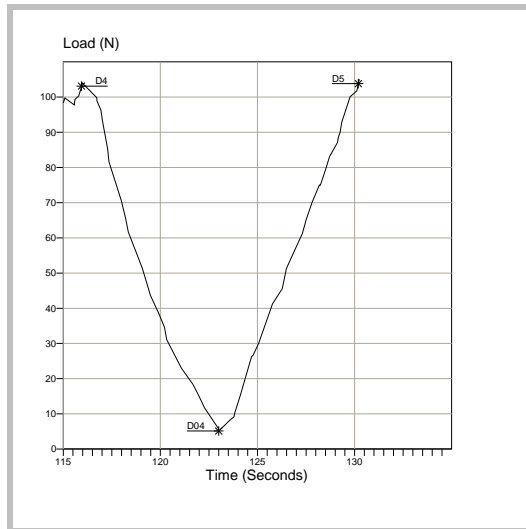
Legend  
 Compressibility Thickness (mm)  
 I1=(D0-D1) mm D0; D04: @ 60 kPa  
 I5=(D04-D5) mm D1; D5: @ 1060 kPa  
 Ip1=[(D0-D1)/D0\*100] % Gauge Loss GL (μm)  
 Ip5=[(D04-D5)/D04\*100] % @ 60 kPa = D0-D04  
 Cp Loss=[(I1-I5)/I1\*100] % @ 1060 kPa = D1-D5  
 HE: D5 -D4 (Nmm) DC:(HE-EE)/EE\*100%  
 EE: D5-D04 (Nmm) Test Time: D5 -D0 (s)

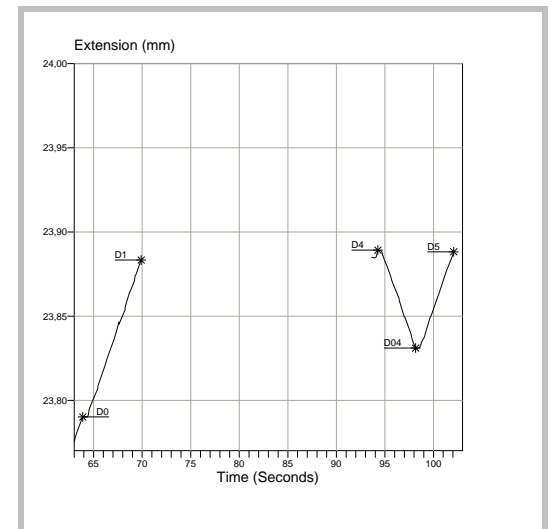
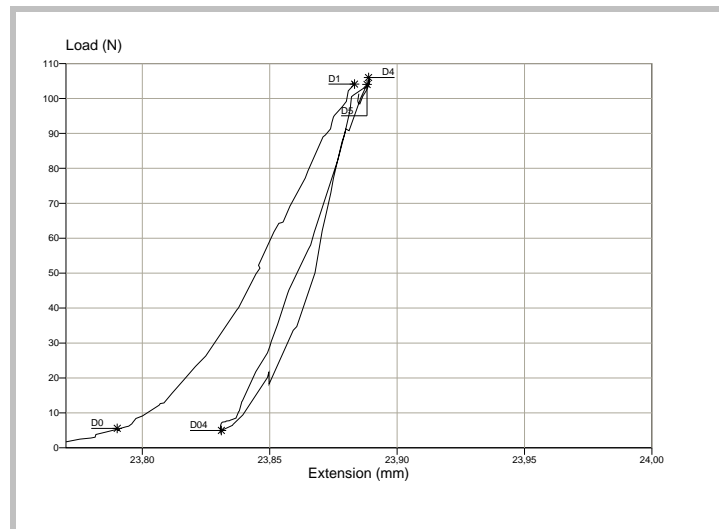
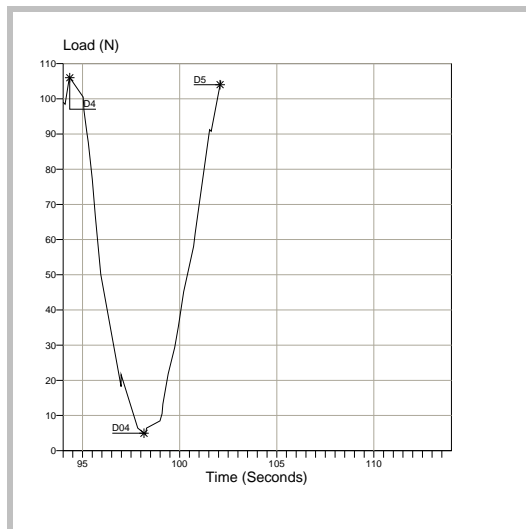
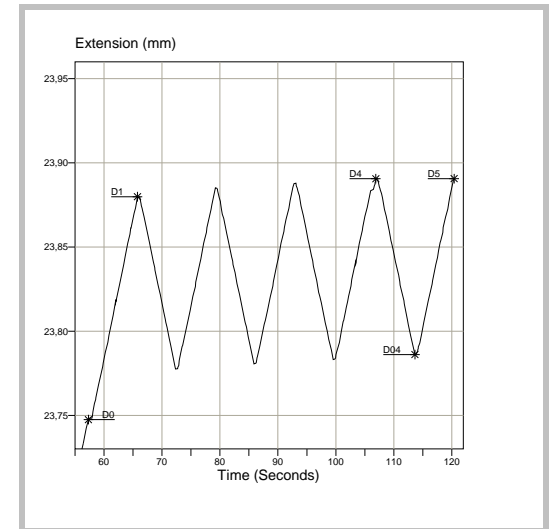
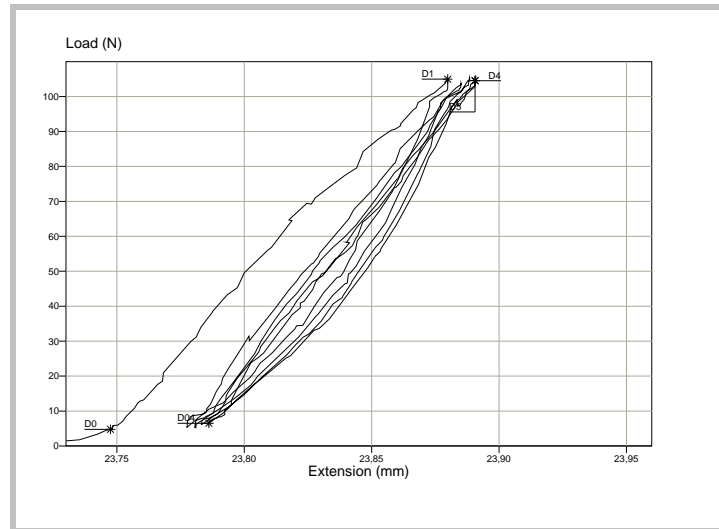
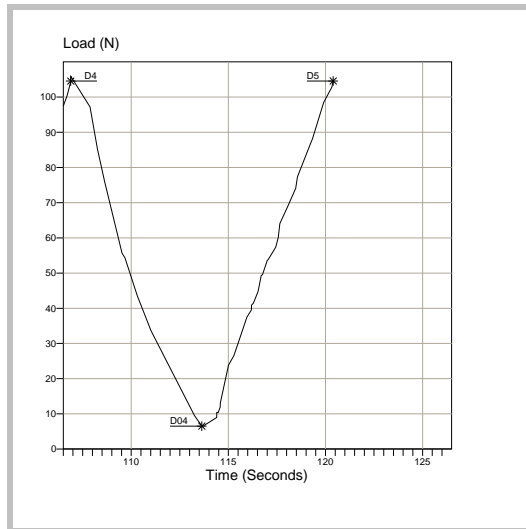
Results: Item # 32 GL @: 60 kPa: 37 μm  
 I1: 0,12 mm GL @1060 kPa:12μm  
 I5: 0,10 mm HE: 0,87 Nmm  
 Ip1: 6,6 % EE: 5,36 Nmm  
 Ip5: 5,3 % DC: 16,2 %  
 Cp Loss: 20 % Test Time: 59 s

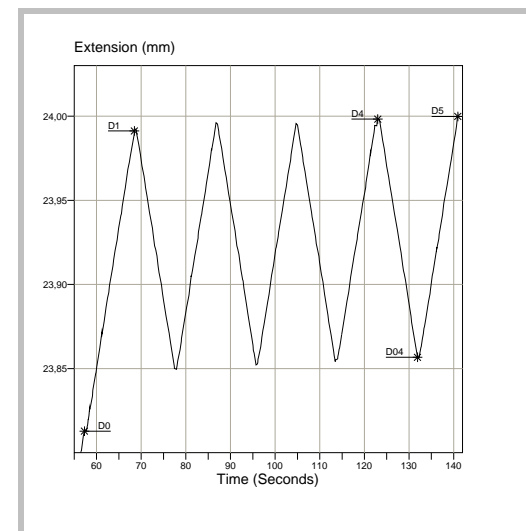
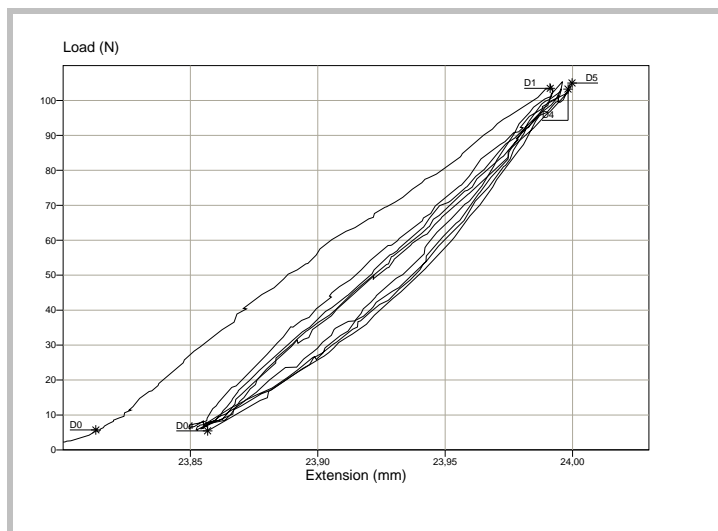
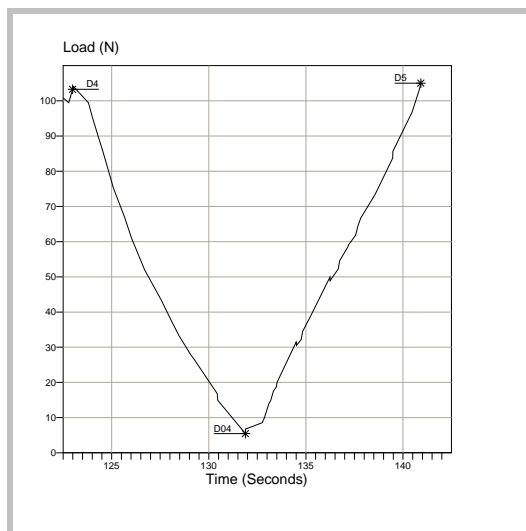
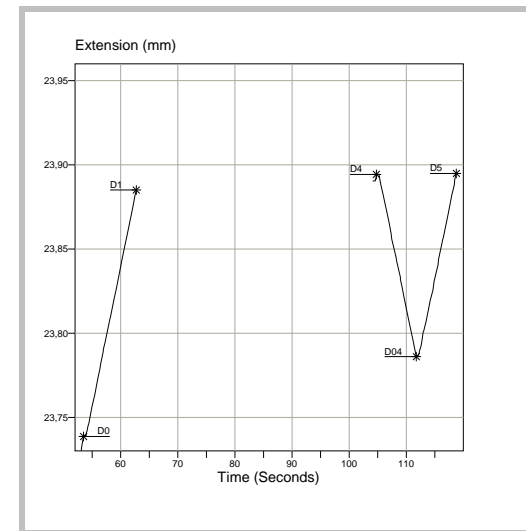
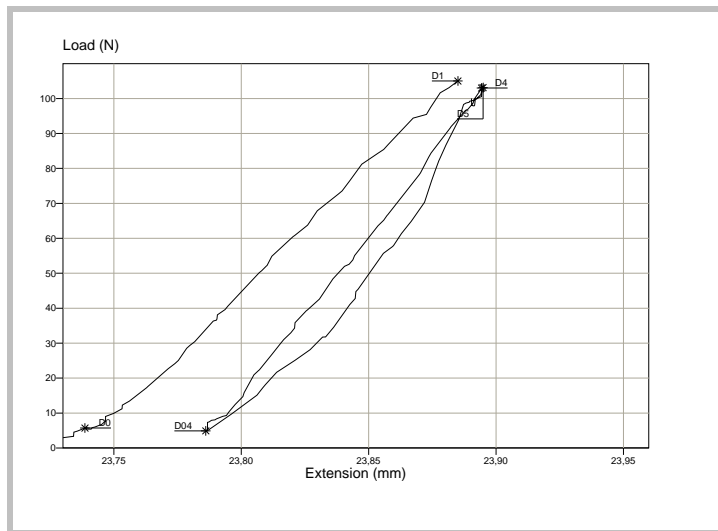
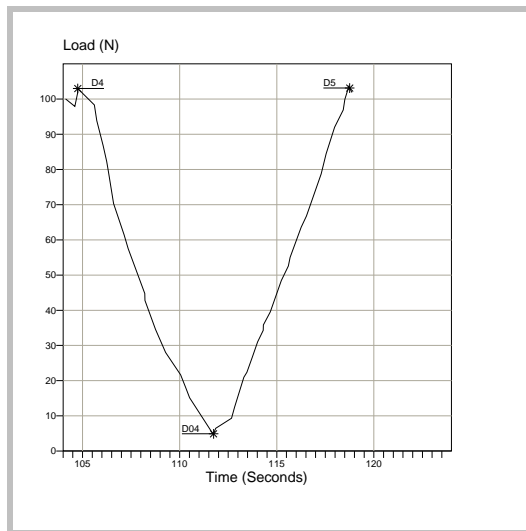


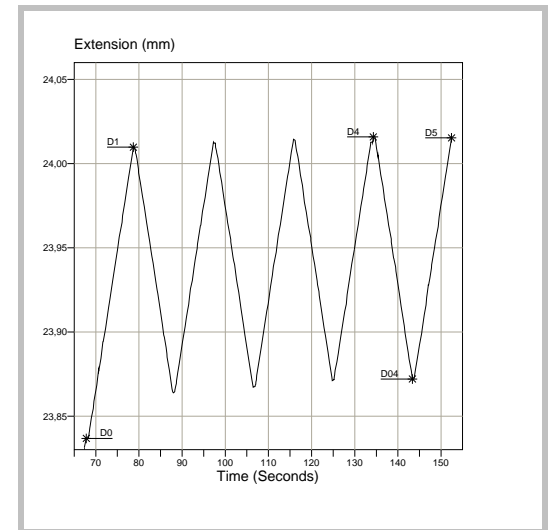
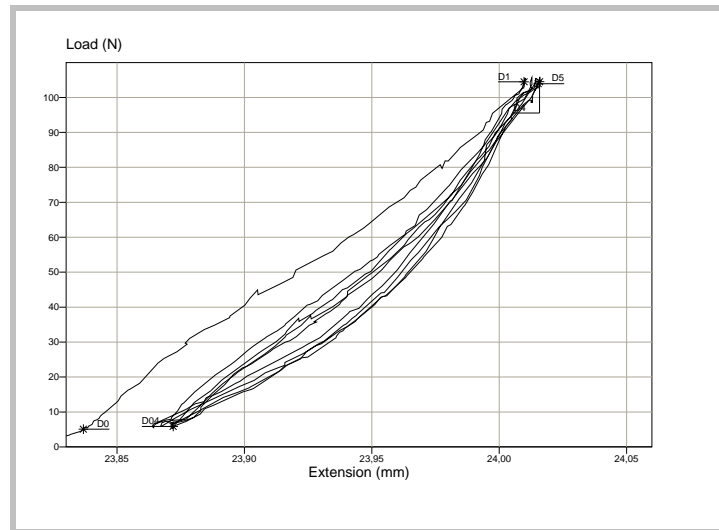
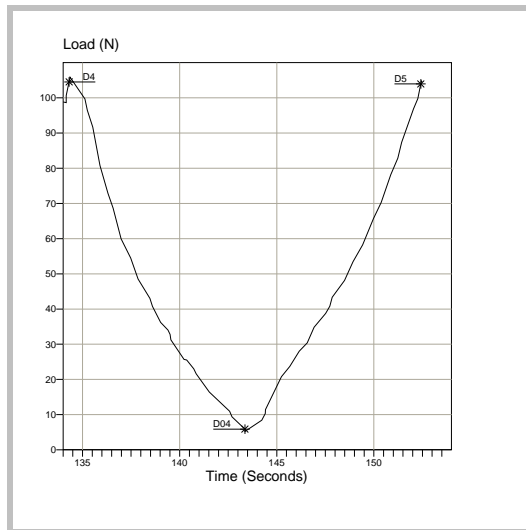
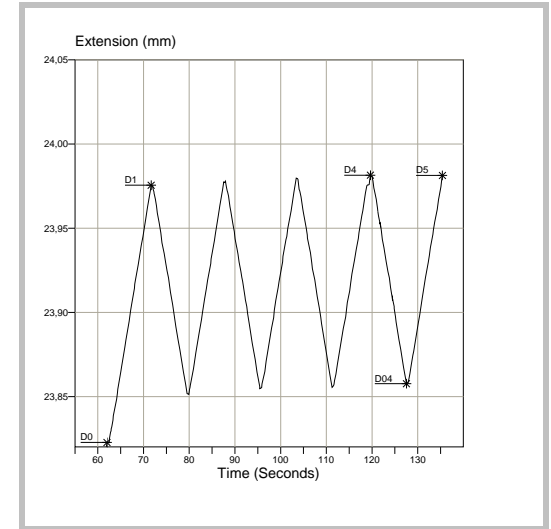
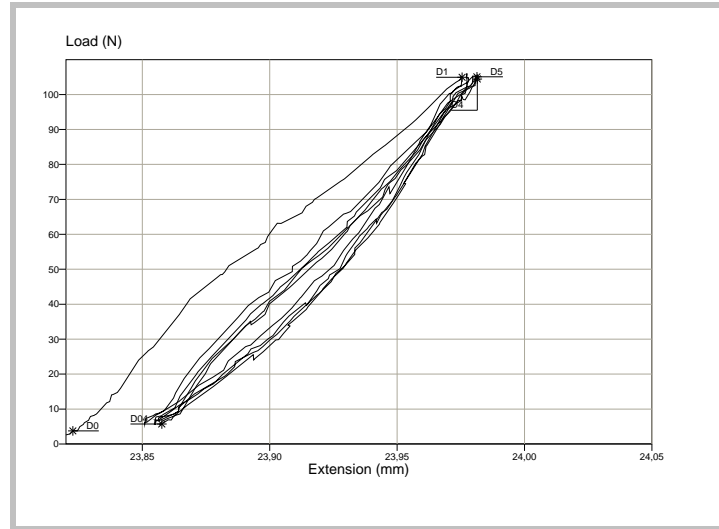
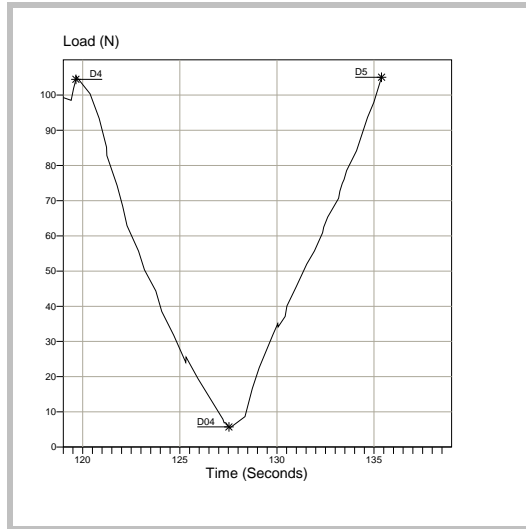


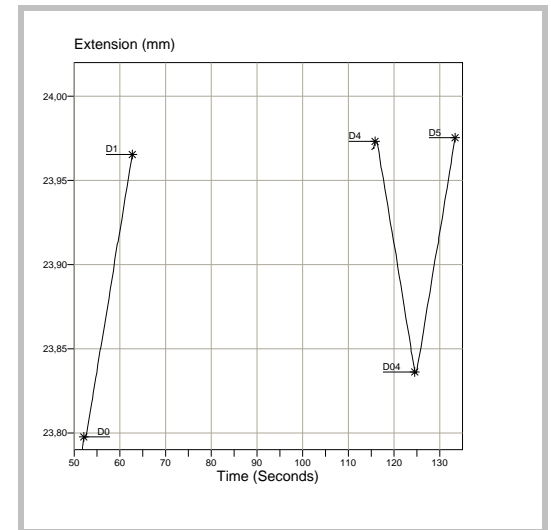
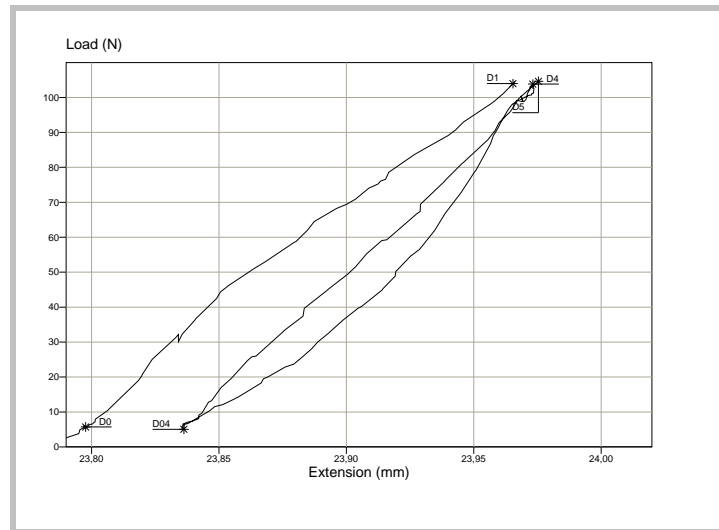
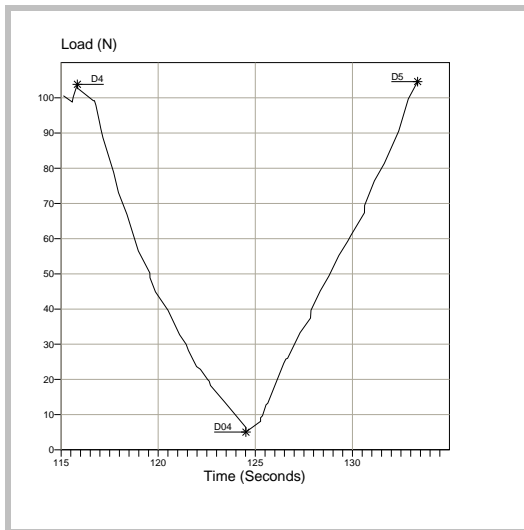
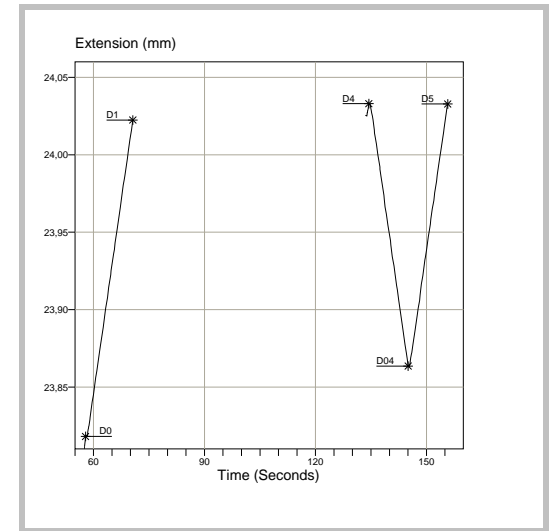
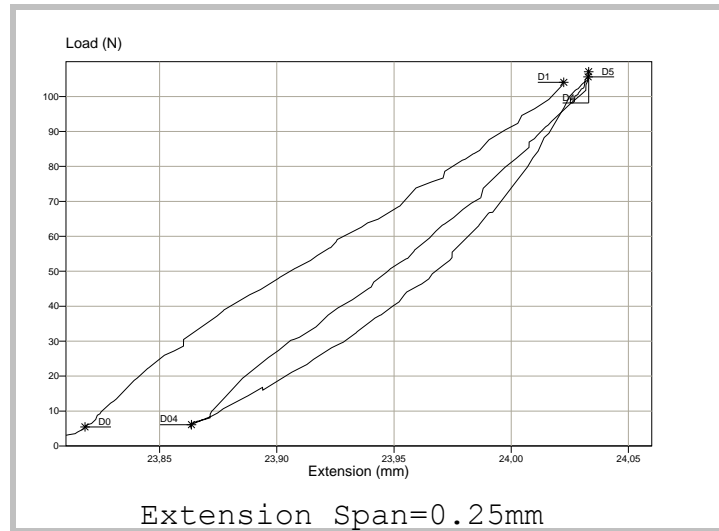
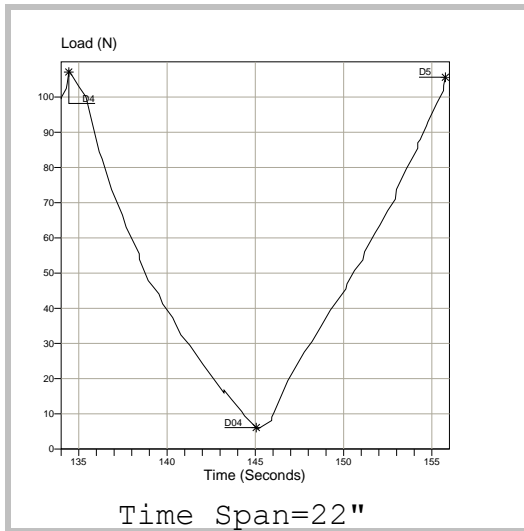




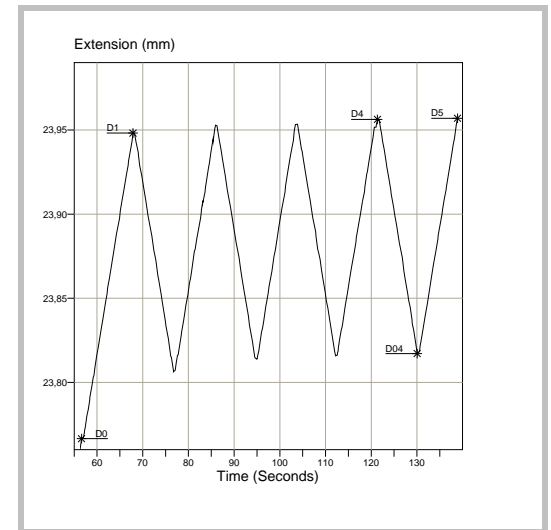
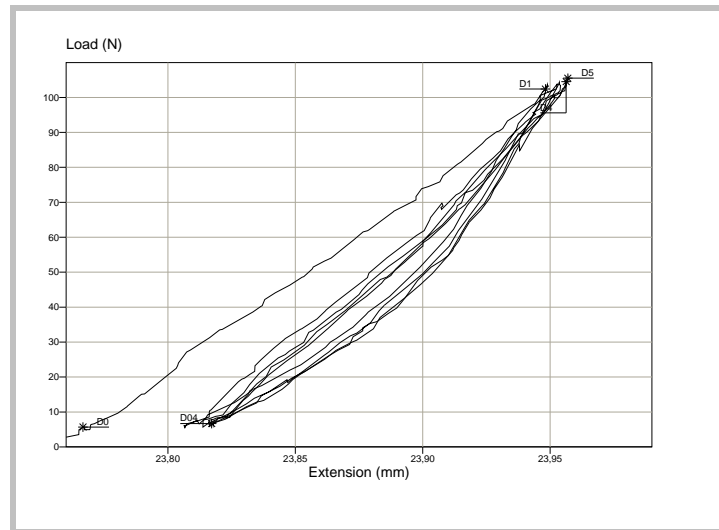
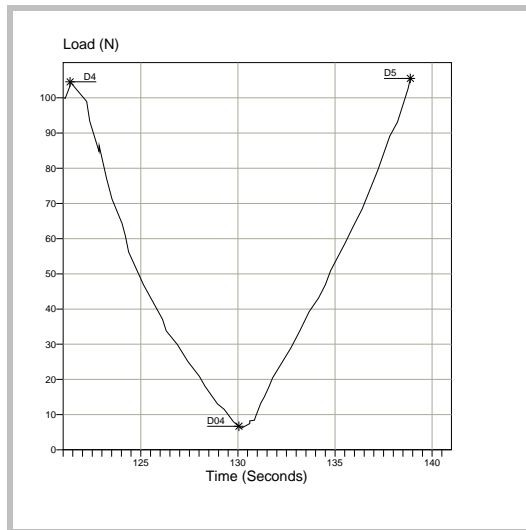
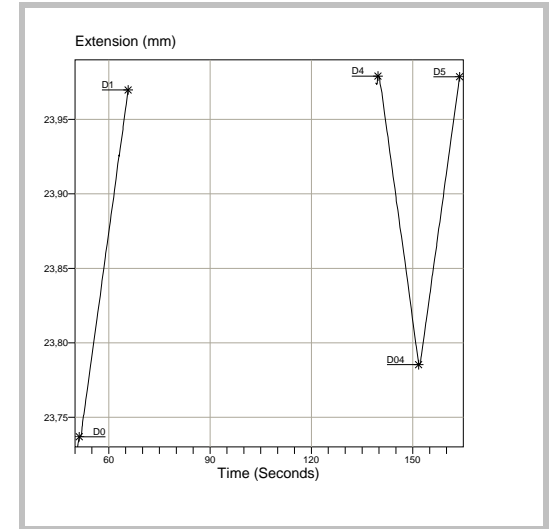
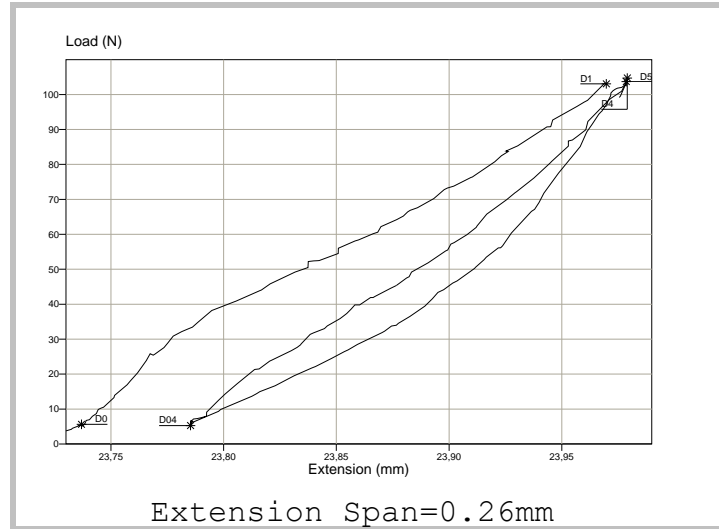
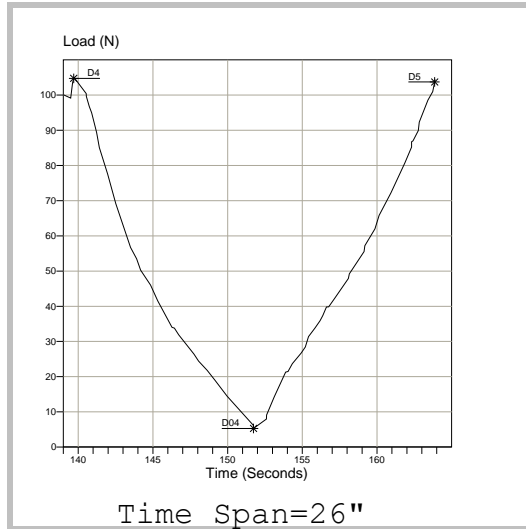














Iberográfica

Capa Rota - Portugal

## Comparative Tests

## Compressibility Indentation

Doc. PROC- LAB - 011

Data: 08 - 02 - 2011

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