



B e n c h c o m p a r i s o n

1st March, 2024

 PUBLIC

1. Test with Q1.5 in the R129 bench
2. Test with Q3 in the R129 bench
3. Test with Q1.5 in the Bus seat
4. Test with Q3 in the Bus seat
5. Comparison between Q1.5 dummy
6. Comparison between Q3 dummy

— TEST WITH Q1.5 —
R129 BENCH



TEST WITH Q3

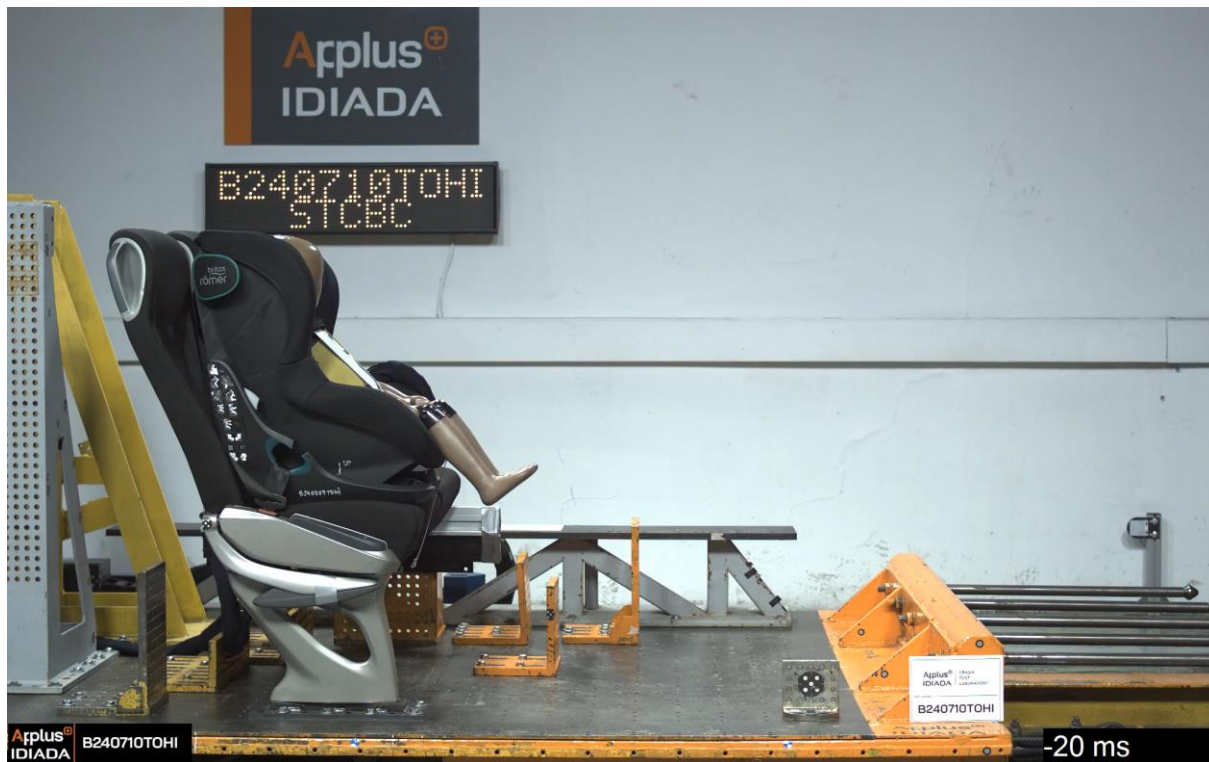
R129 BENCH



— TEST WITH Q1.5 —
BUS SEAT



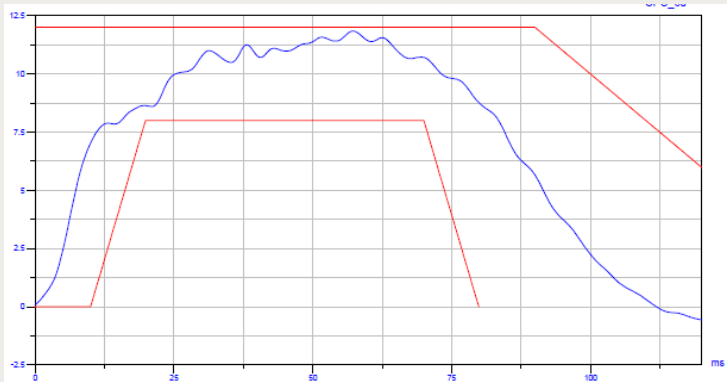
TEST WITH Q3 BUS SEAT



COMPARISON

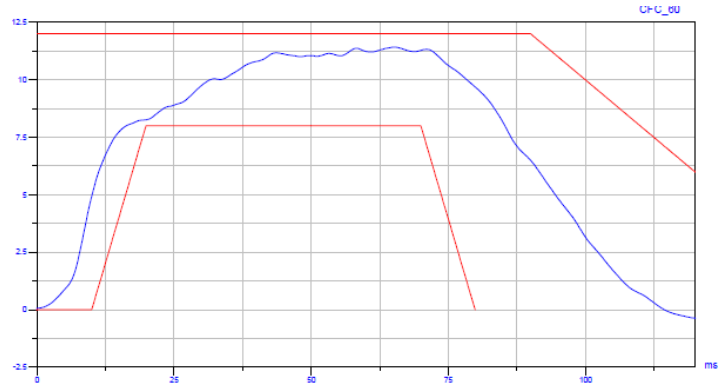
Q1.5 DUMMY

R129 Bench



Max acc: 12 g

Bus seat

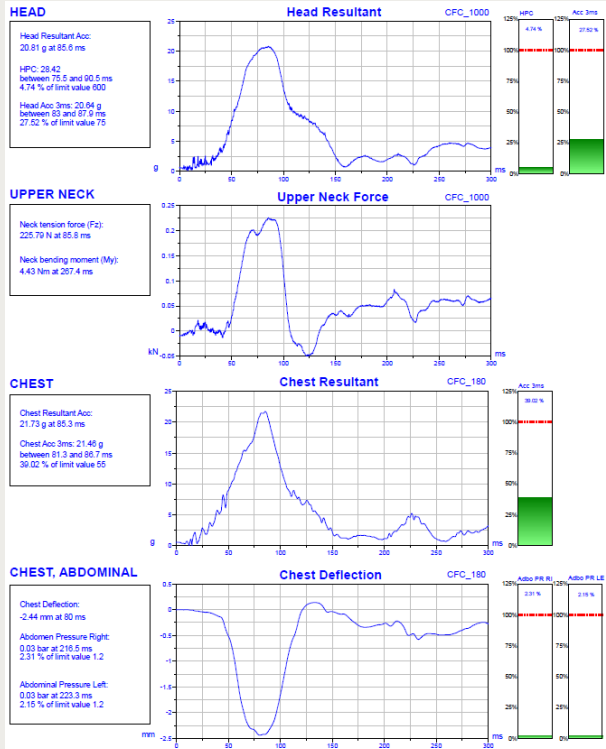


Max acc: 11,25 g

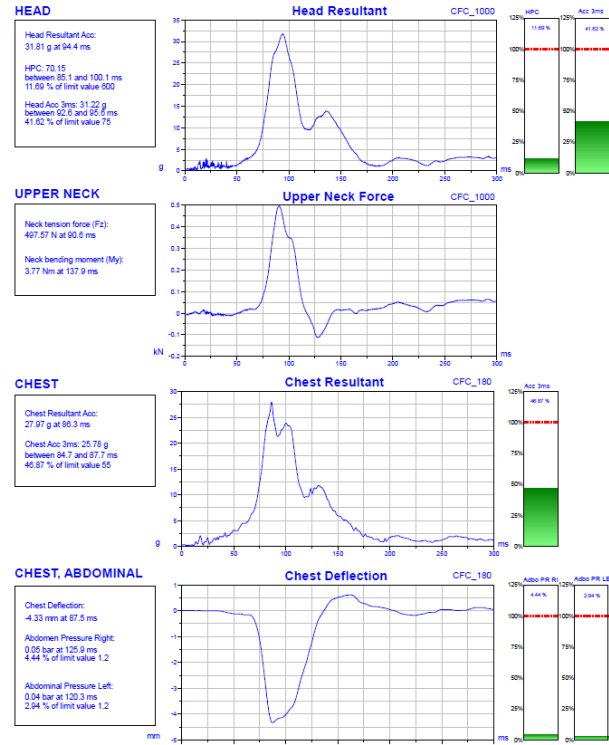
COMPARISON

Q1.5 DUMMY

R129 Bench



Bus seat



COMPARISON

Q1.5 DUMMY

R129 Bench

Head Acc 3ms	20.64 g
HPC	28.42
Neck tension	225.79 N
Neck vending moment	4.43 Nm
Chest Acc 3ms	21.73 g
Chest deflection	2.44 mm
Abd pressure	R: 0.05 bar L: 0.03 bar

Bus seat

Head Acc 3ms	31.22 g
HPC	70.15
Neck tension	497.57 N
Neck vending moment	3.77 Nm
Chest Acc 3ms	25.78 g
Chest deflection	4.33 mm
Abd pressure	R: 0.05 bar L: 0.04 bar

COMPARISON

Q1.5 DUMMY

R129 Bench



Max excursion X: 629 mm

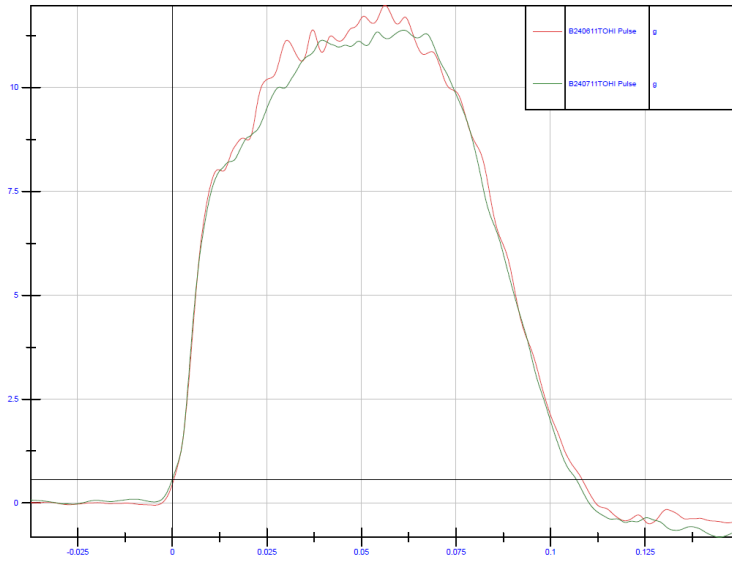
Bus seat



Max excursion X: 662 mm

COMPARISON

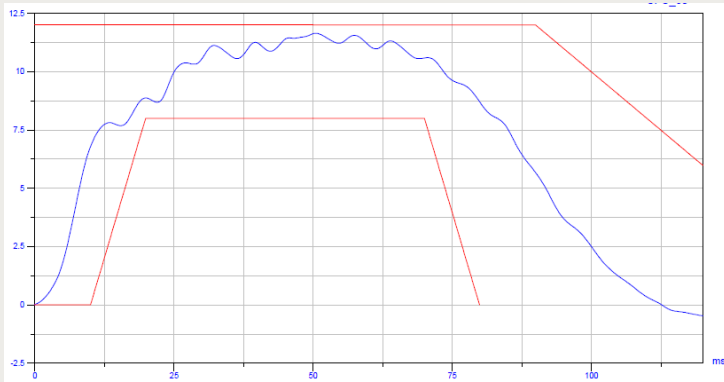
Q1.5 DUMMY



COMPARISON

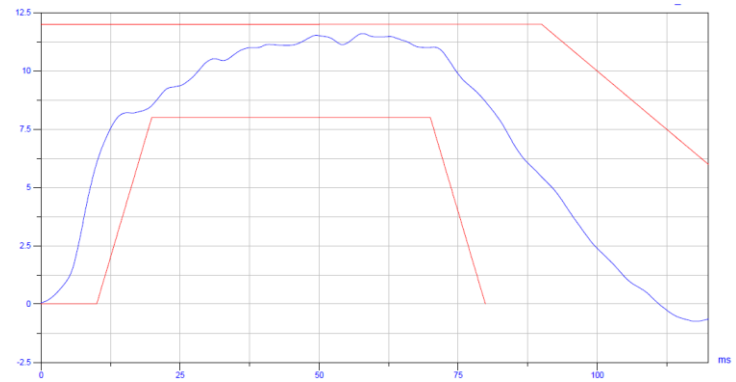
Q3 DUMMY

R129 Bench



Max acc: 11,5 g

Bus seat

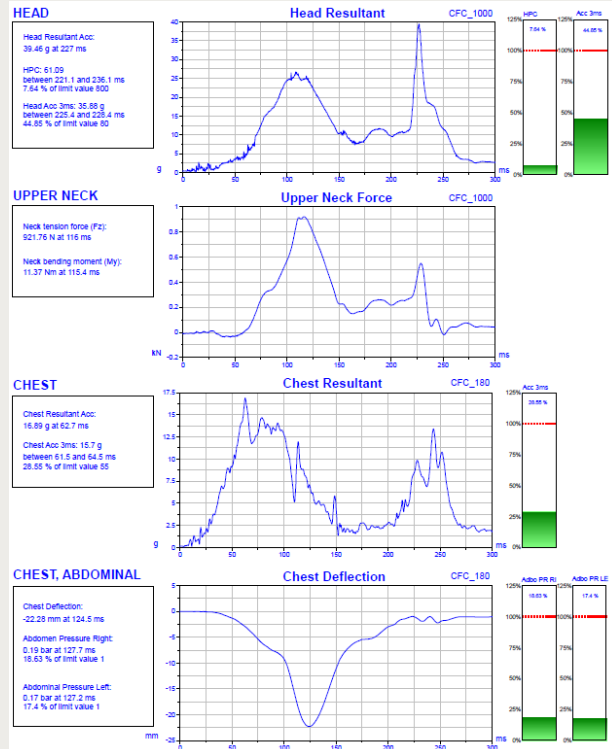


Max acc: 11,5 g

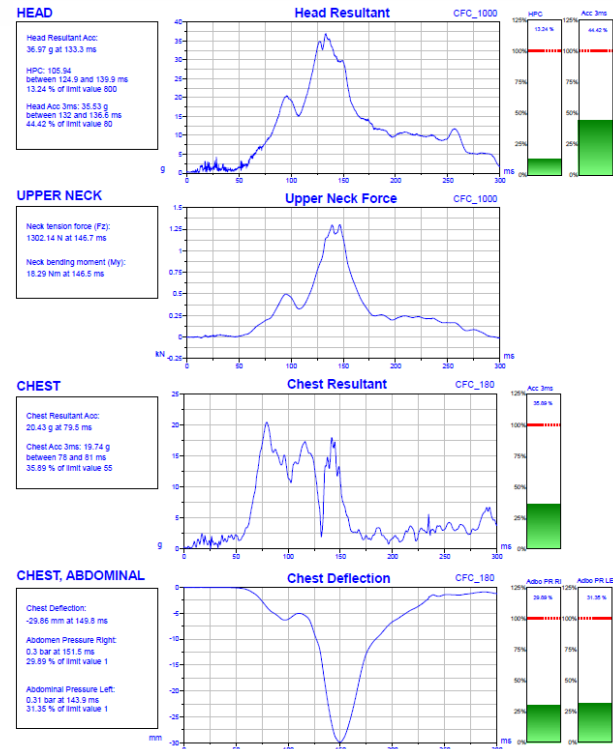
COMPARISON

Q3 DUMMY

R129 Bench



Bus seat



COMPARISON

Q1.5 DUMMY

R129 Bench

Head Acc 3ms	35.88 g
HPC	61.09
Neck tension	921.76 N
Neck vending moment	11.37 Nm
Chest Acc 3ms	15.7 g
Chest deflection	22.28 mm
Abd pressure	R: 0.19 bar L: 0.17 bar

Bus seat

Head Acc 3ms	35.53 g
HPC	105.94
Neck tension	1302.14 N
Neck vending moment	18.29 Nm
Chest Acc 3ms	29.86 g
Chest deflection	4.33 mm
Abd pressure	R: 0.3 bar L: 0.31 bar

COMPARISON

Q1.5 DUMMY

R129 Bench



Max excursion X: 420 mm

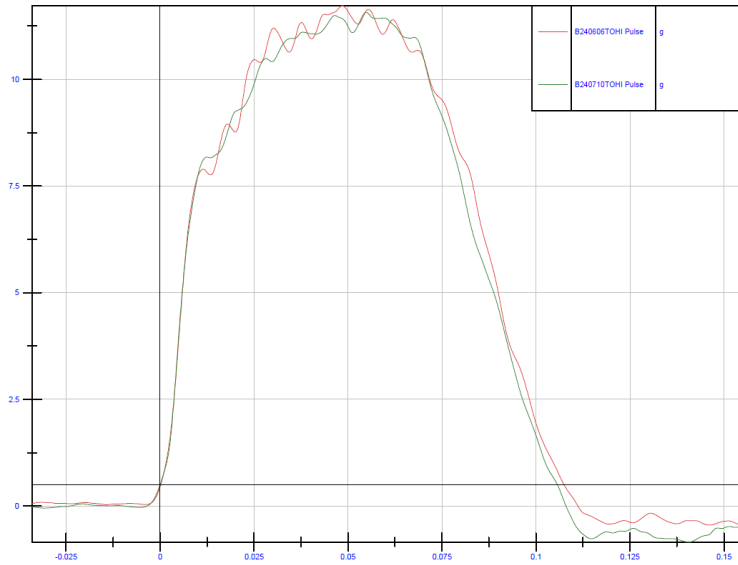
Bus seat



Max excursion X: 730 mm

COMPARISON

Q1.5 DUMMY



SEAT BELT
BUS SEAT

OPEN DISCUSSION



Notes





THANK YOU
FOR YOUR KIND ATTENTION



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