Functionally Graded Orthodontic Archwires

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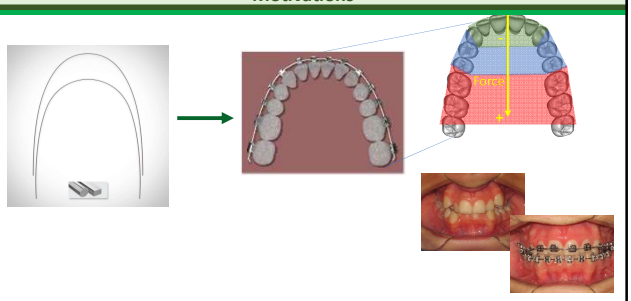
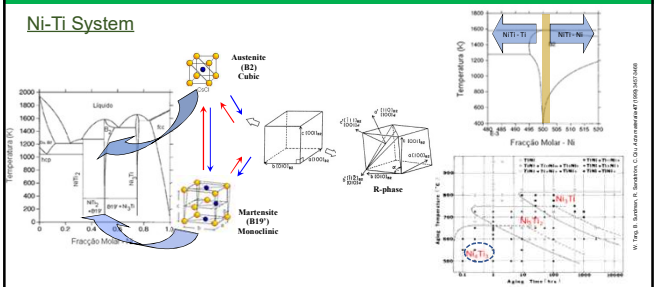
Motivations

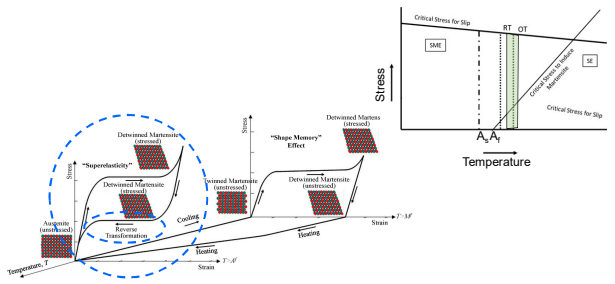


Shape Memory Alloys

Ni-Ti System

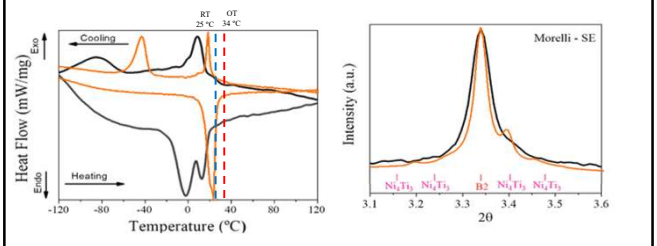


Shape Memory Alloys

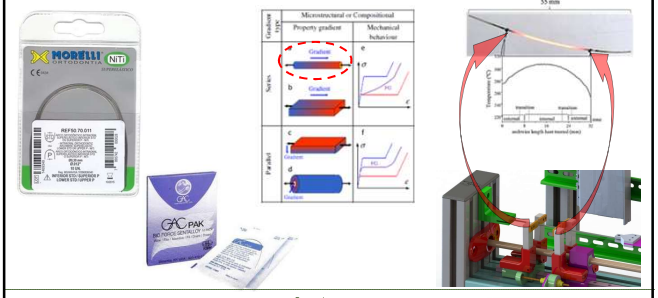


Experimental Procedure – Materials and Methods

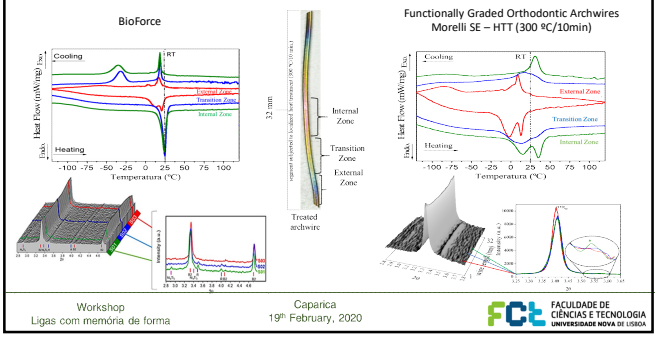
Orthodontic Archwire: SE *X* TA



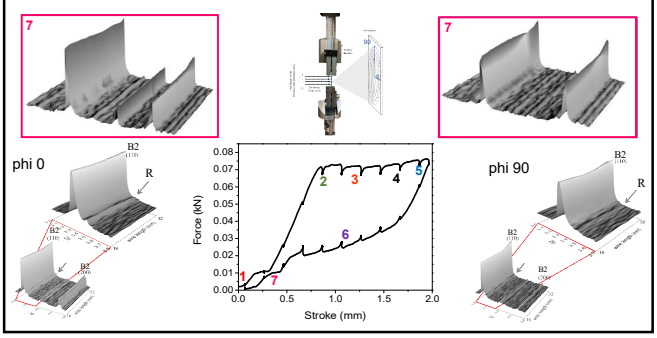
Experimental Procedure – Materials and Methods



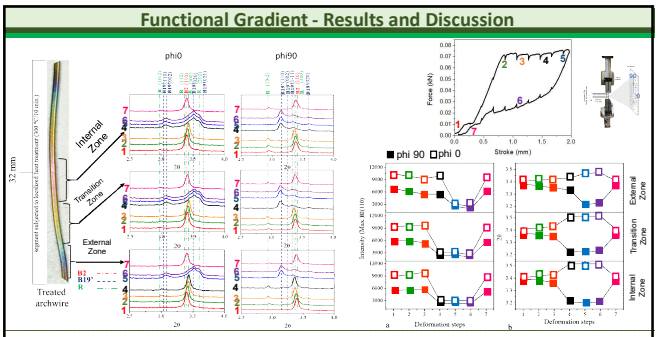
Functional Gradient - Results and Discussion



Functional Gradient - Results and Discussion



Functional Gradient - Results and Discussion



CONCLUSIONS

The functional gradient introduced in an initially homogeneous commercial orthodontic archwire was observed.

Through *in-situ* XRD it is possible to distinguish the phase constituents present in different areas and the structural evolution during tensile test.

At oral temperature, the material with functional gradient is fully austenitic (B2)

ACKNOWLEDGMENTS

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