

Microhardness and Flexural Strength Behavior of TiMoZrXSi Biomaterial Focused on Hip Prosthesis

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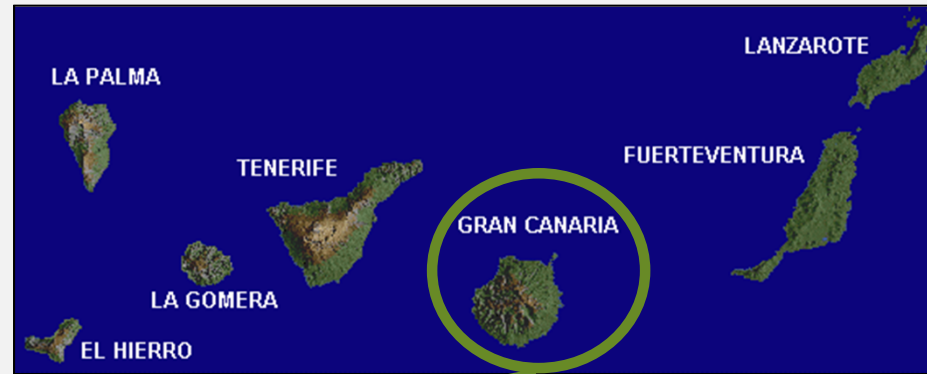
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INDEX

1. INTRODUCTION
2. PURPOSE
3. EXPERIMENTAL
4. RESULTS
5. CONCLUSIONS

TITANIUM ALLOYS

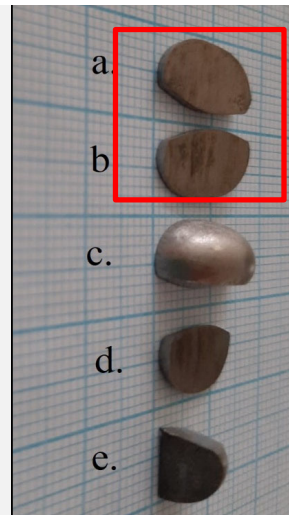
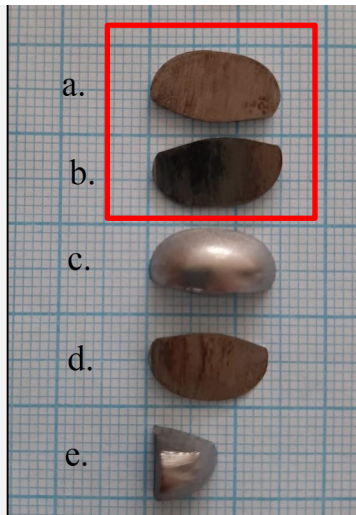
1. INTRODUCTION
2. PURPOSE
3. EXPERIMENTAL
4. RESULTS
5. CONCLUSIONS

- Human hip supports 10 times a person's weight.
- 1970 Titanium Alloy difficulties:
 - Aluminum → Alzheimer and dementia.
 - Vanadium → carcinogenic and a toxic element.
- Key features of the new alloys:
 - Low modulus of elasticity.
 - Low cytotoxicity.

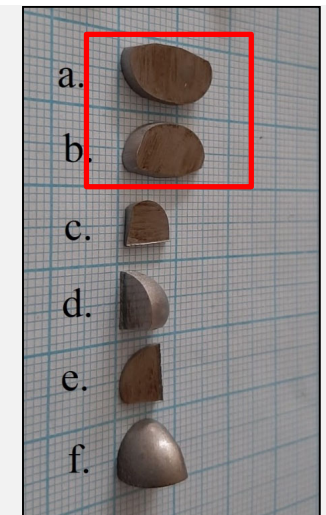
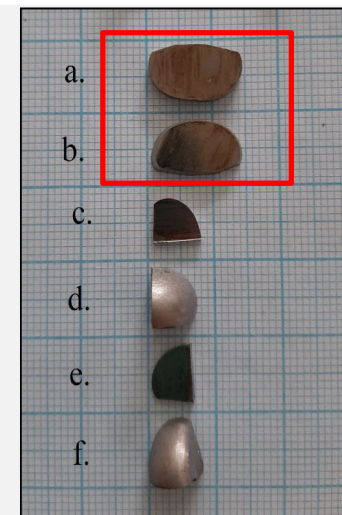


TiMoZrXSi ALLOY

T1 (73% Ti, 20% Mo, 7% Zr, 0% Si)



T2 (72% Ti, 20% Mo, 7% Zr, 1% Si)



1. INTRODUCTION
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4. RESULTS
5. CONCLUSIONS