

# BreakPoint Fin

Mockup Review

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Blue A

# BreakPoint Fin

Safe Board. Safe Rider. Surf On.





# Vision

Safe for Surfers

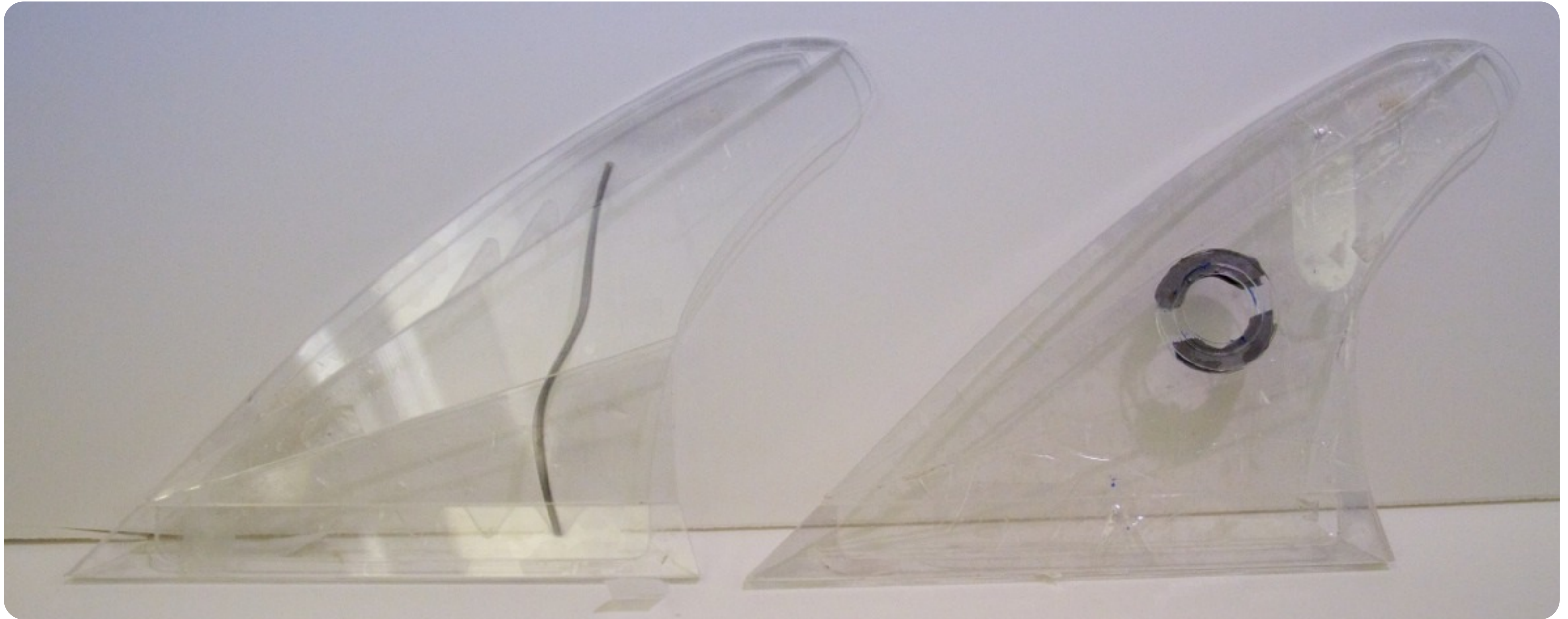
Safe for Surfboards

High Performance



# Sketch Model

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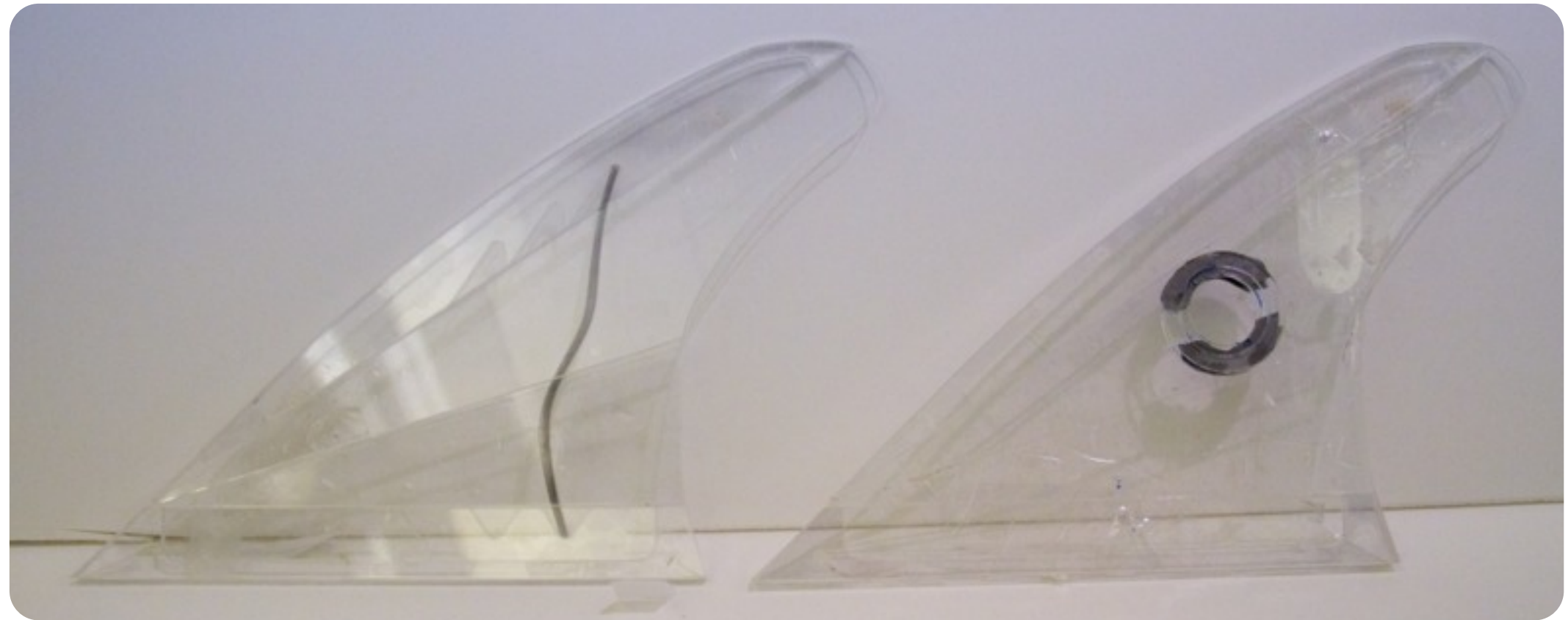
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# Sketch Model

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Fin Folding

Locking Mechanism



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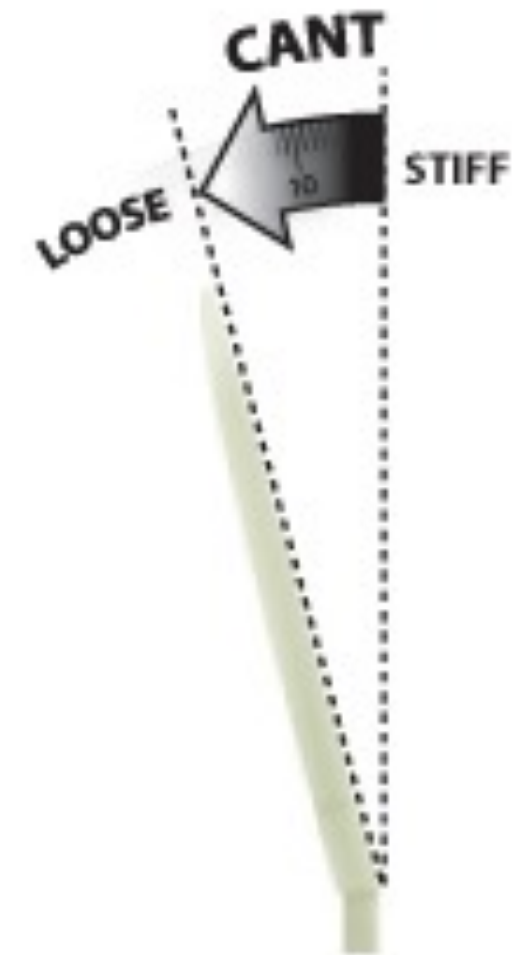
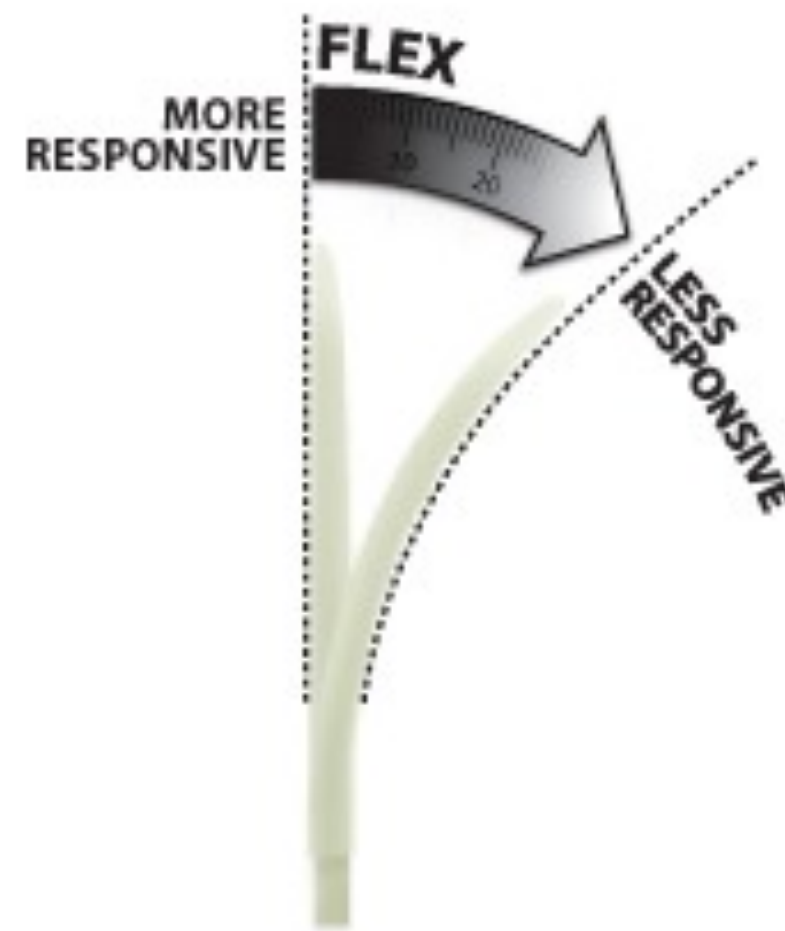


# Risks

High performance stiffness

Mechanism consistency

Multiple fin systems



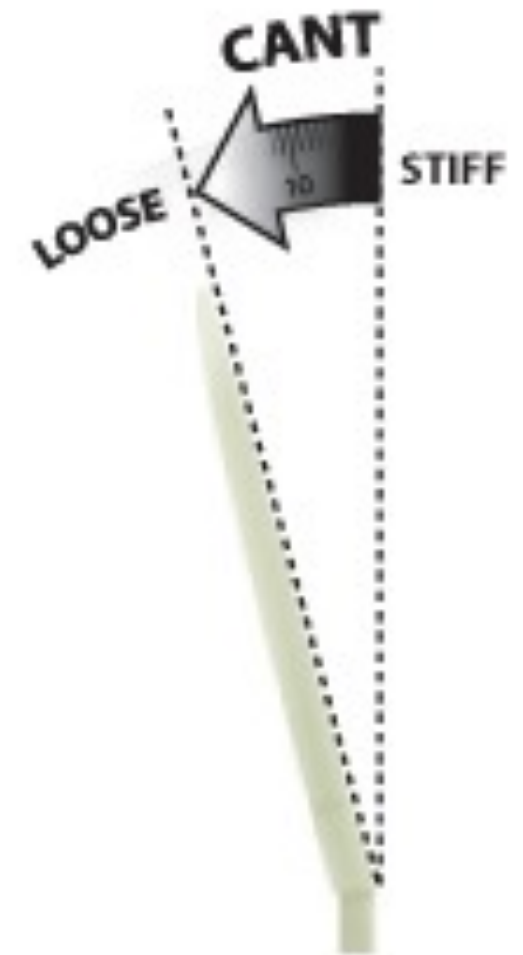
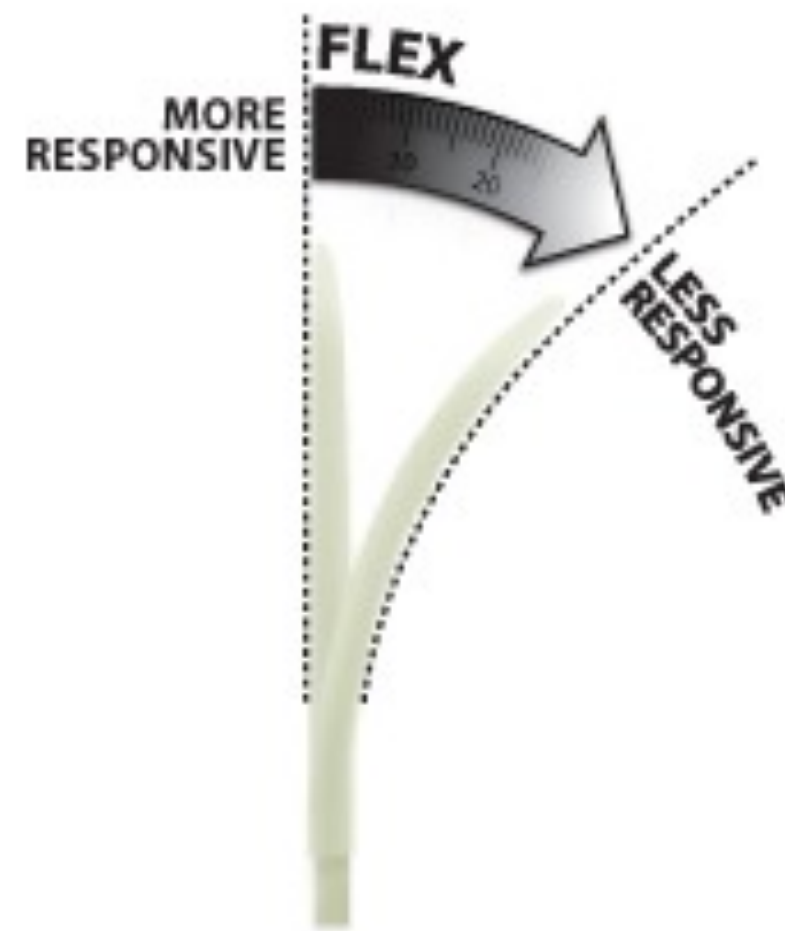
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# Risks

High performance stiffness

Mechanism consistency

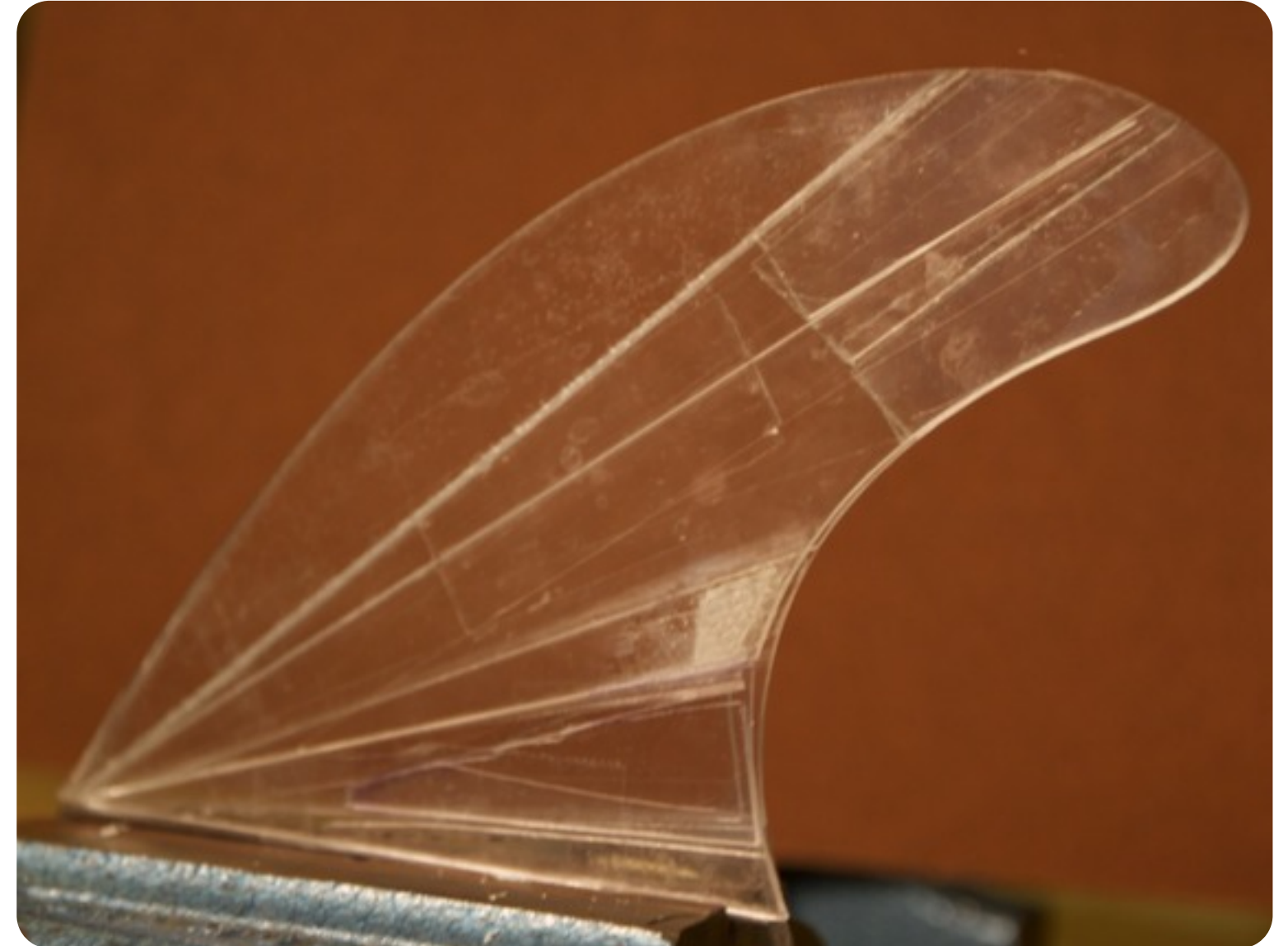
Multiple fin systems



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# Mockups

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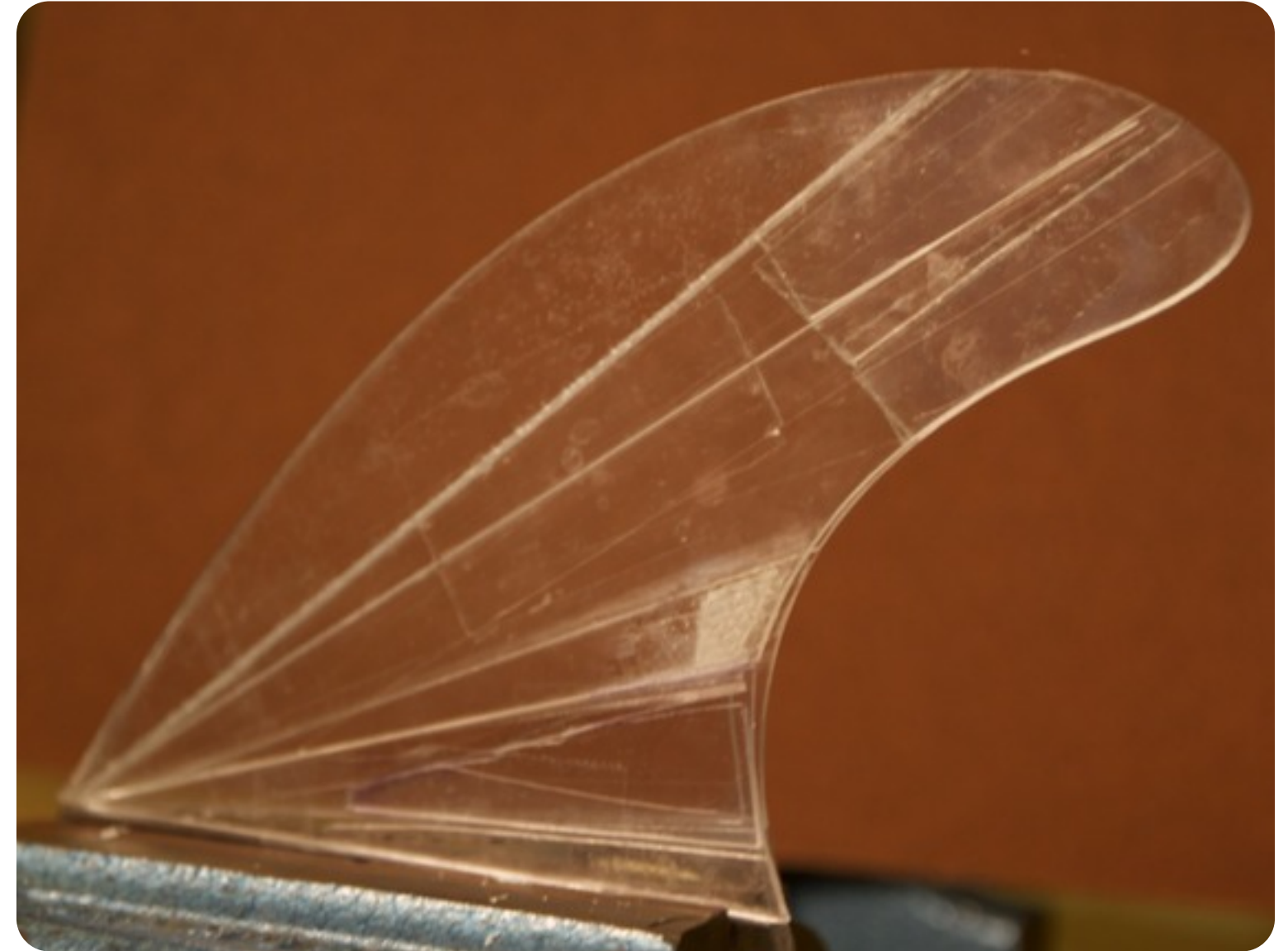
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# Mockups



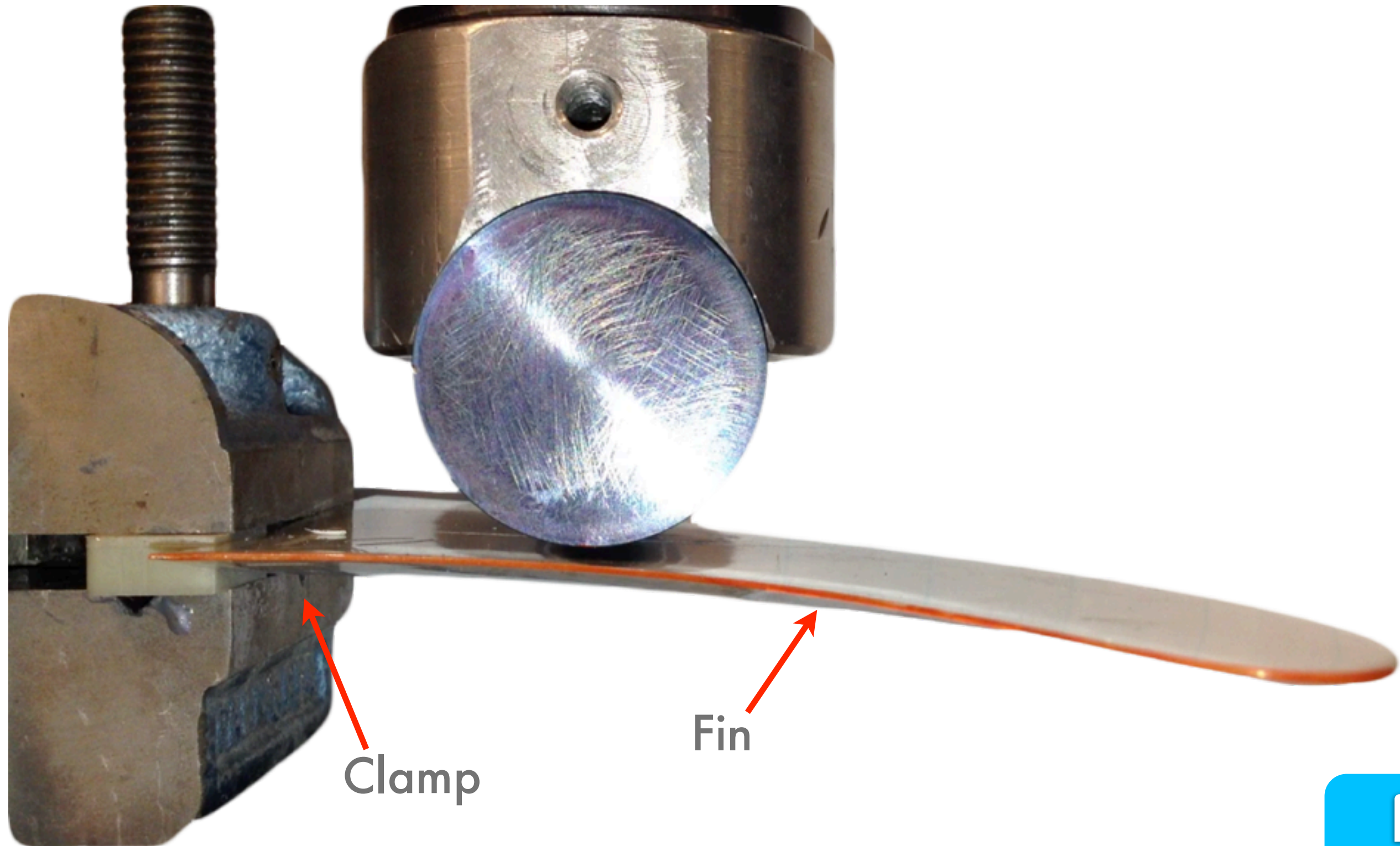
Breakaway



Folding with Velcro Lock

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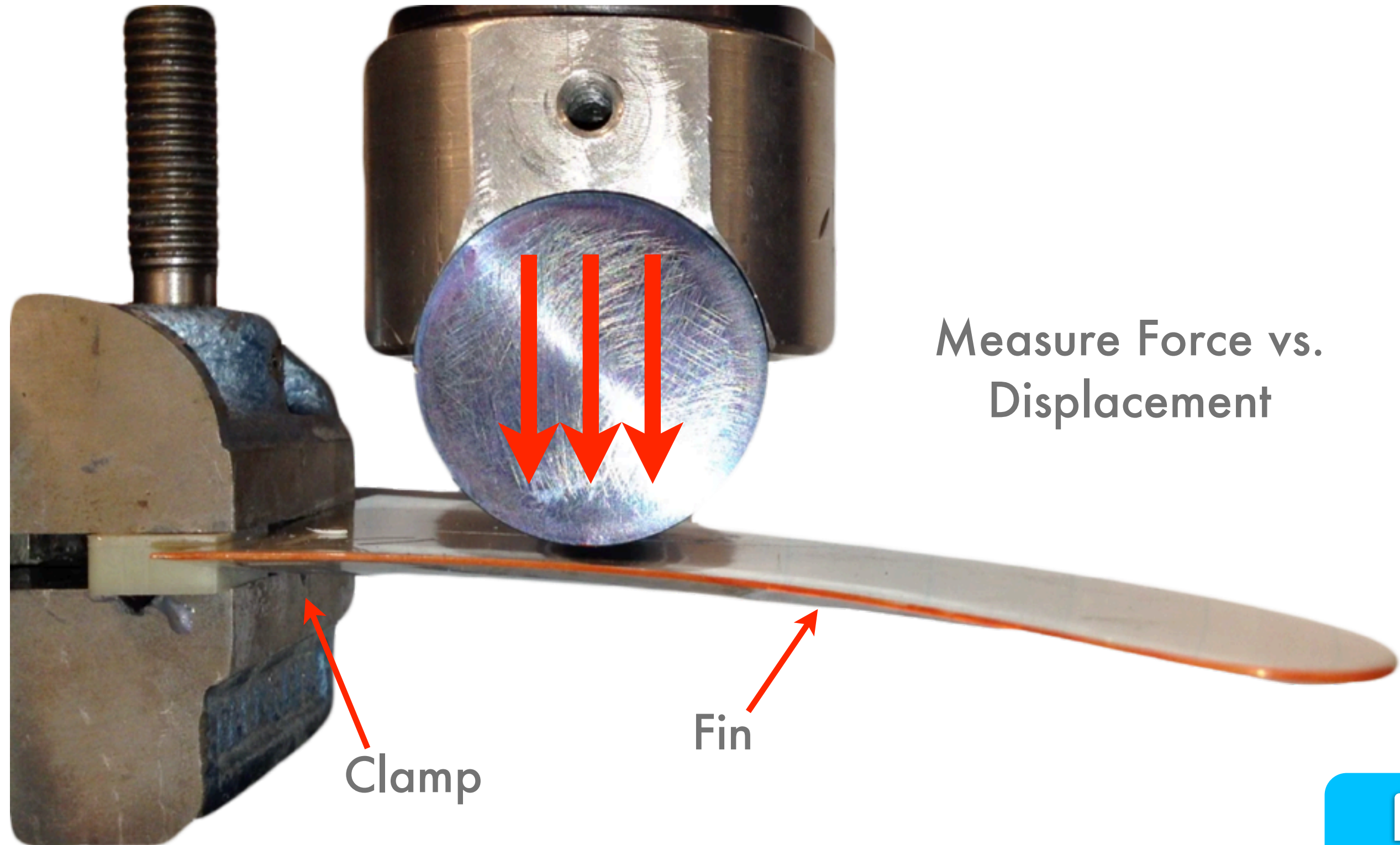
# Testing



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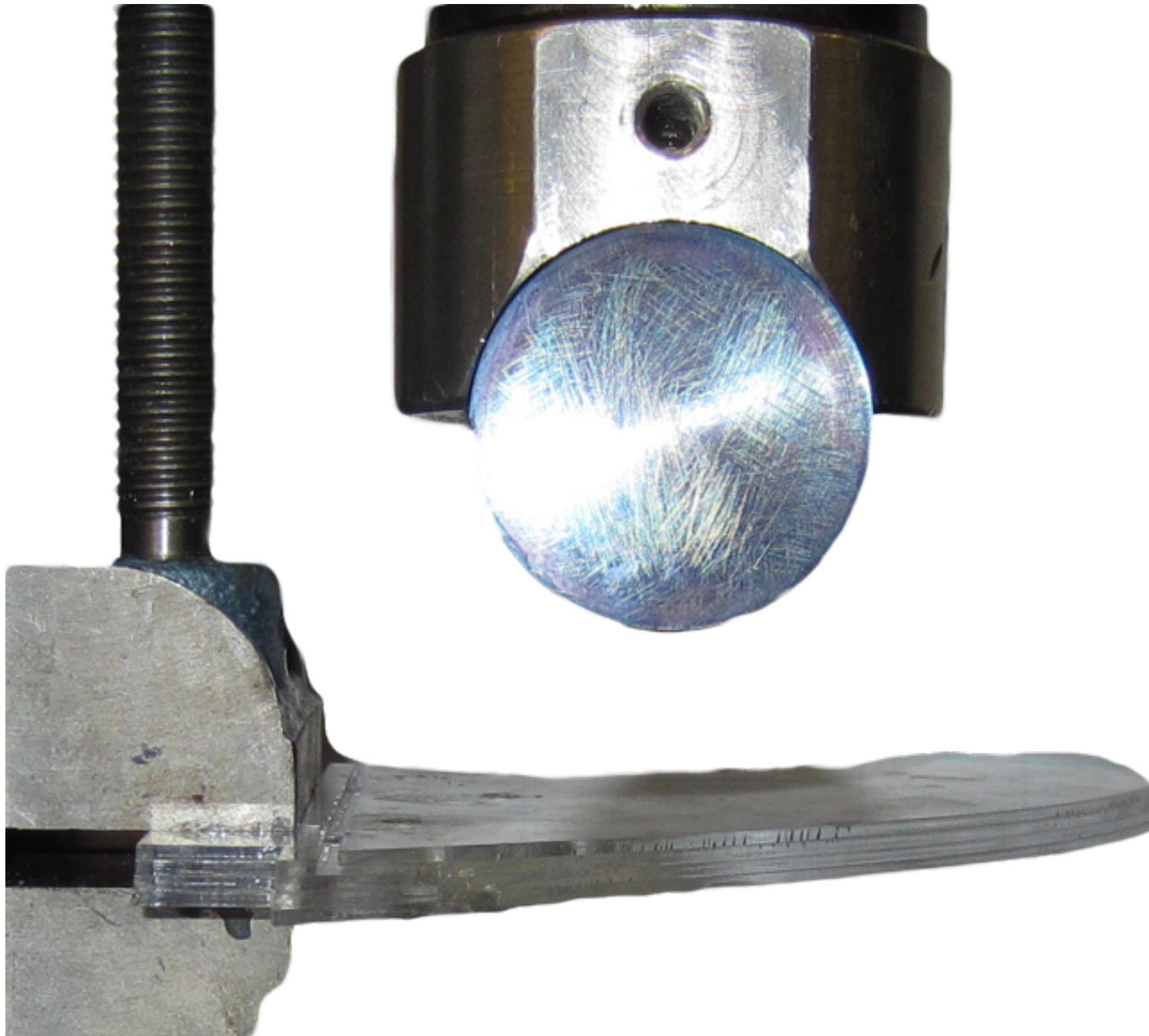
# Testing



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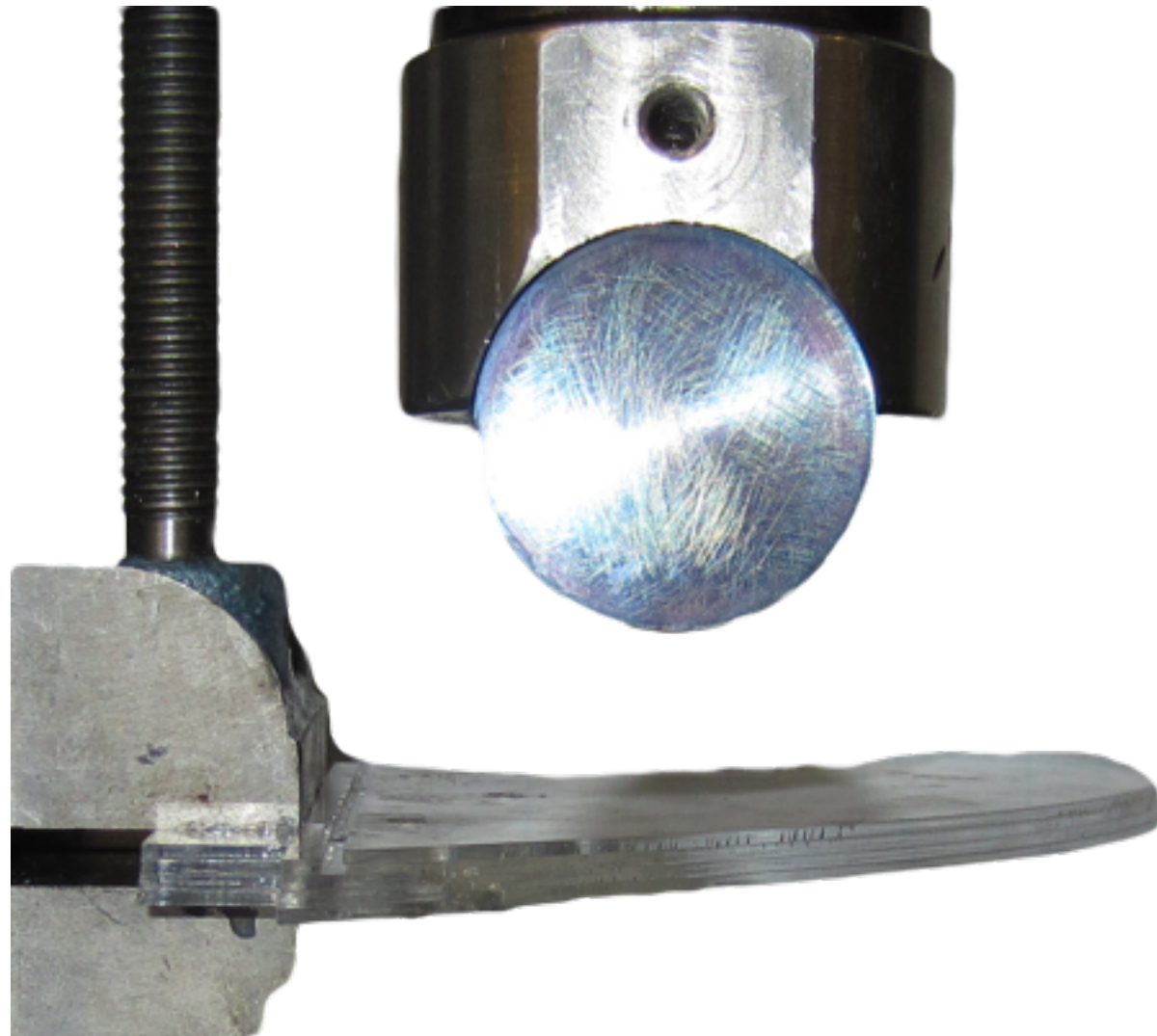
# Testing



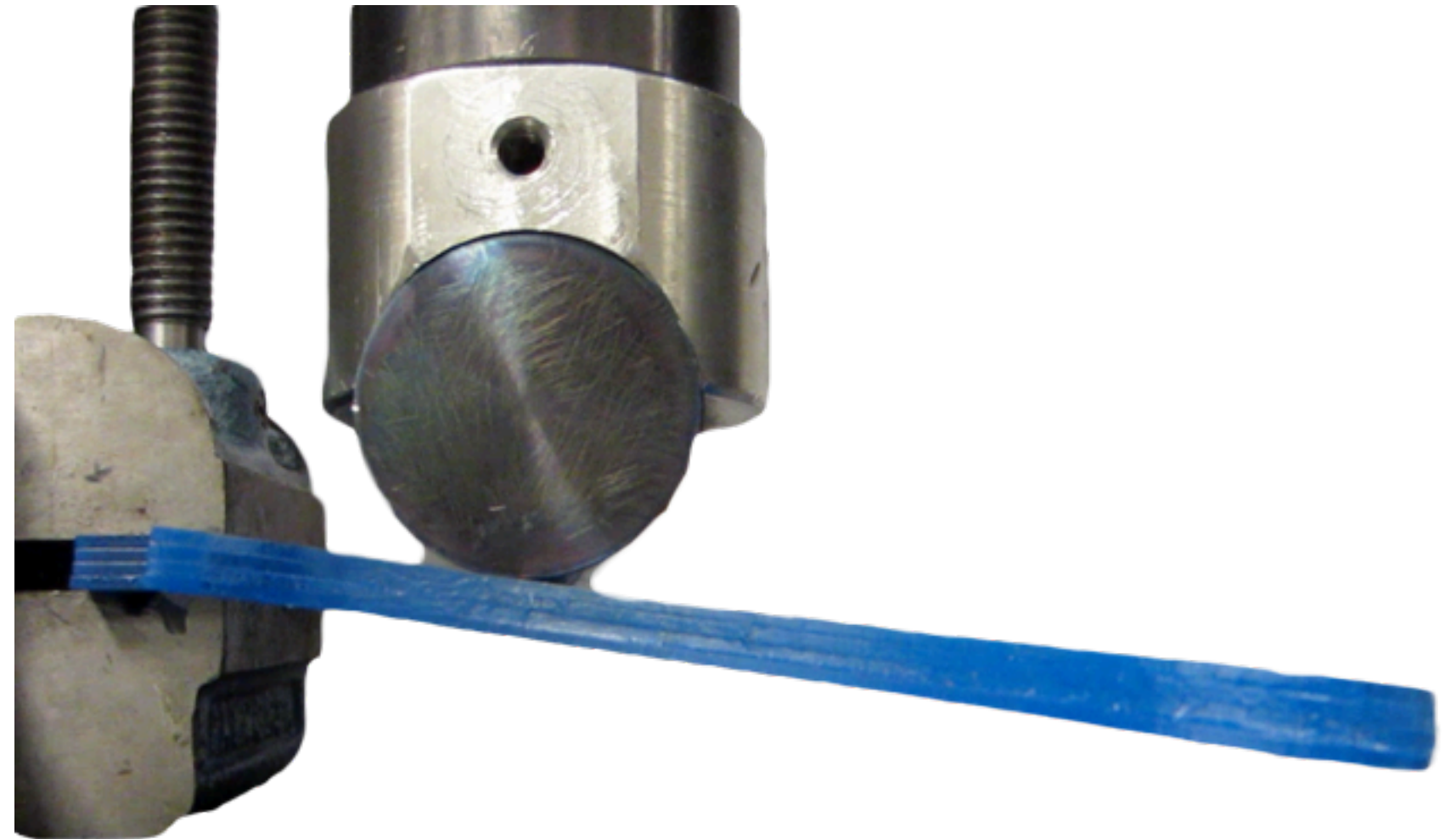
Tested both mockups

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# Testing



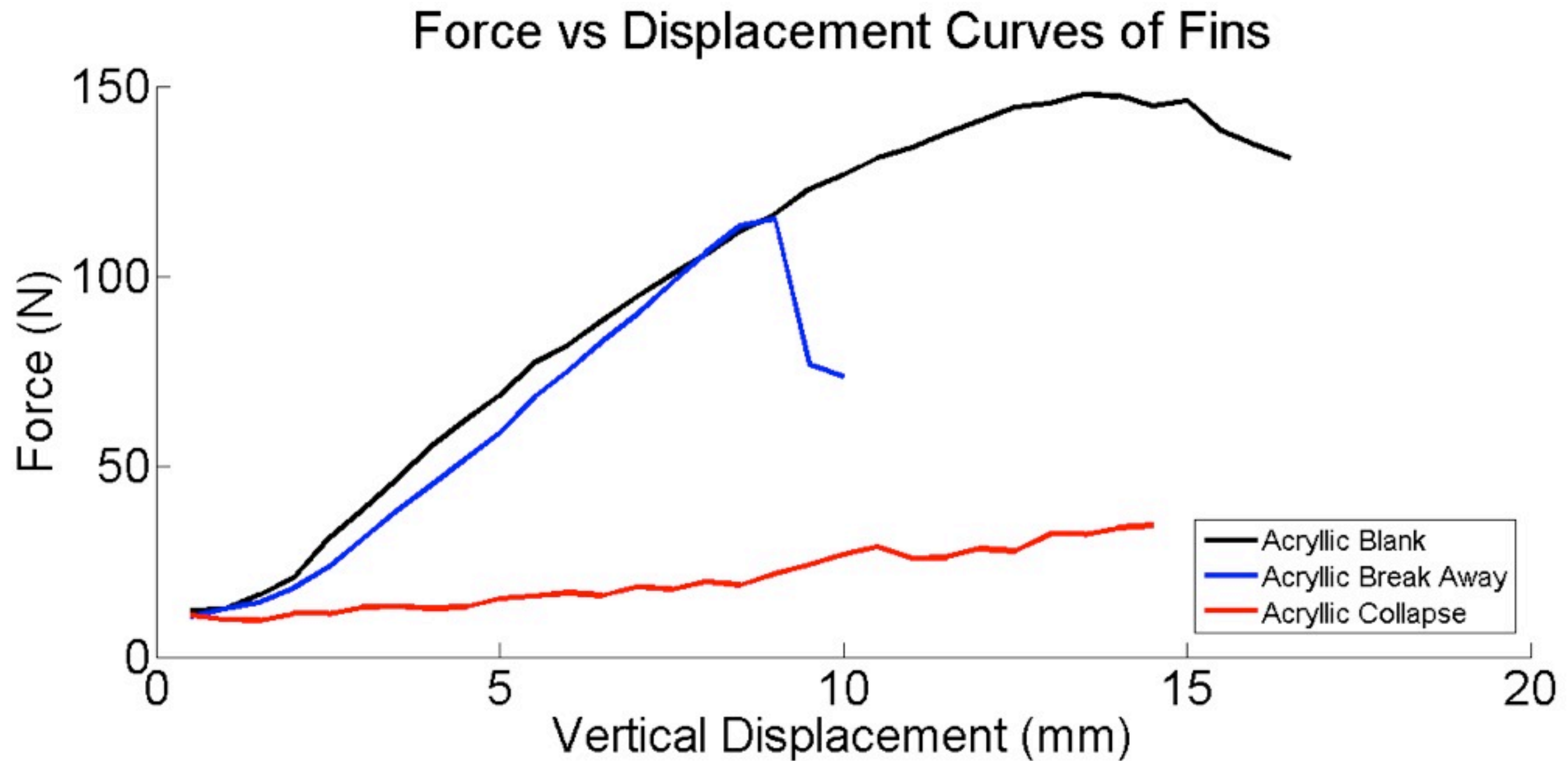
Tested both mockups



and a solid acrylic version

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# Findings



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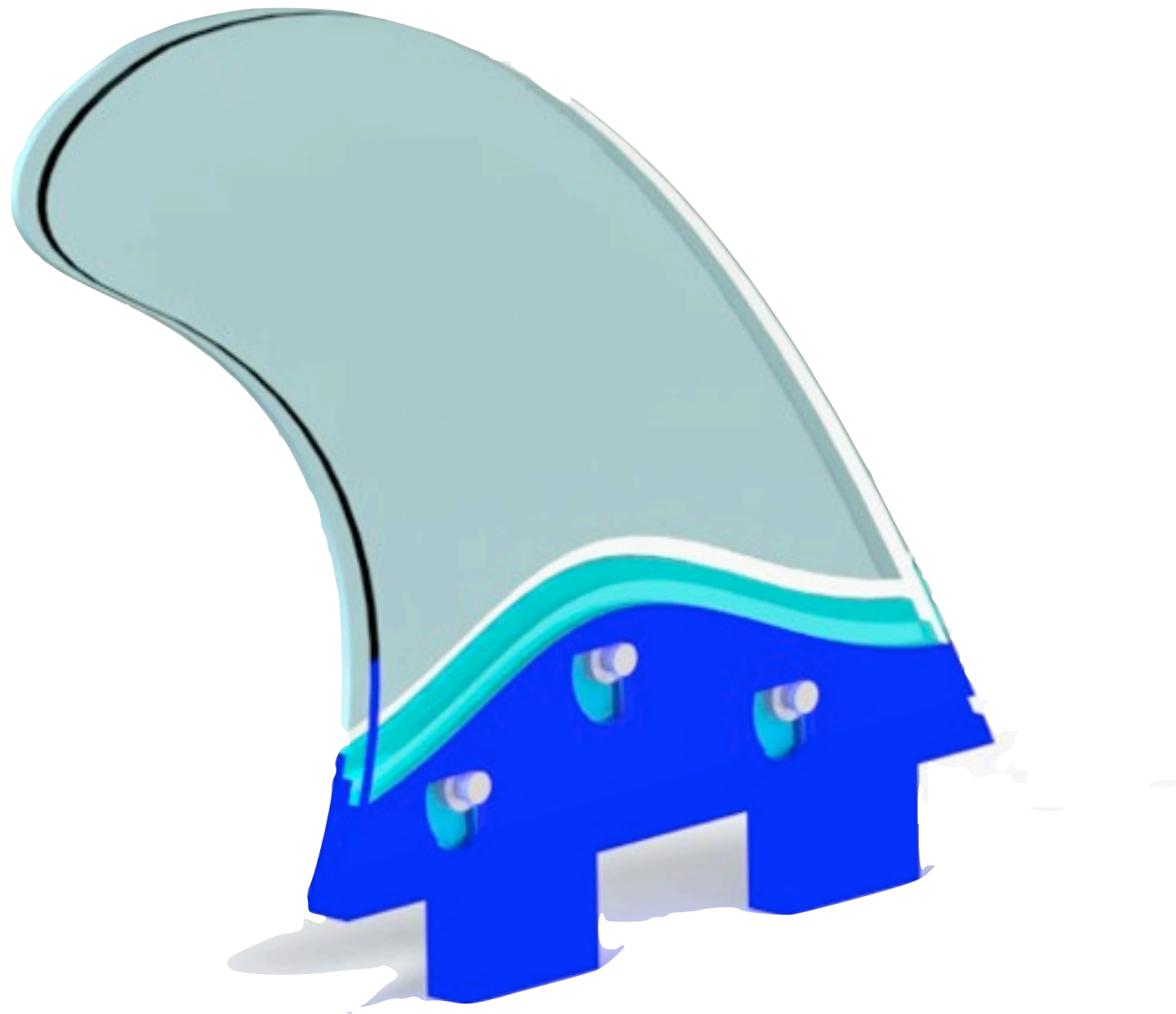
# Product Contract

Customer Need	Product Attribute	Engineering Spec
Surfer unharmed	Max impact force	< 500N
Surfboard unharmed	Fin breakaway force	< 1kN
Meets performance needs	Hydrodynamic performance	Length, depth, sweep, flex, foil
Quickly reset	Reset time	<15s
Long life	Useable life, Impact events	>1000hr, >50 impact events
Affordable	Price	<\$75

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# Next Steps

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Refine breakaway model

Develop tethering system

Composite prototype

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