

Savings Accomplished When Using MIXPAC T-Mixer and Critical Properties of Materials Mixed Using New MIXPAC T-Mixer Tips

Purpose: (1) To measure the relative weight of material contained within the standard mixing tips versus the new *MIXPAC T-Mixer tips (Sulzer Mixpac AG)* and present the results as percent less material wasted per tip used. (2) To compare critical mechanical properties of materials delivered using the new *MIXPAC T-Mixer tips (Sulzer Mixpac AG)* versus values produced using the standard tips.

PART

1

Savings Accomplished

Experimental Design:

Materials: The five new *MIXPAC T-Mixer tips* and their corresponding standard size tips.

Tests: Tip content weight was determined by measuring the weight of the unused tip and subtracting this from the weight of the filled tip. The weight of the contents of the standard size tip was then compared to the weight of the *MIXPAC T-Mixer tip* contents to determine the “% Less Material Wasted” shown in “**Results**” below.

Replications: n=3 per tip product type.

Results:

Sulzer Mixpac AG Tip Savings

Material	Saving Tip Product #	Savings Tip Length	Std Tip Product #	% Less Material Wasted Per Tip
Impregum Garant Soft	102395	Med.	102396	12
Impregum Garant Soft	128286	Short	102396	37
Aquasil	112022		102398	25
GrandioCore	102481	Med.	102484	40
GrandioCore	128958	Short	102484	32*
Luxacore	128305		102392	27
Protemp Plus	128595		102403	29

*Short tip holds more material than medium tip

Conclusion:

All *MIXPAC T-Mixer tips* waste less material than the standard tip by as much as 40% less waste per tip used.

PART
2

Critical Properties of Materials Mixed

Experimental Design:

Mixing Tips: The three different tip types (for impression materials, crown and bridge materials, and composites and cements) in the *MIXPAC T-Mixer* family and their respective standard sized tips were used as shown in the summary chart in “**Results.**”
Materials:

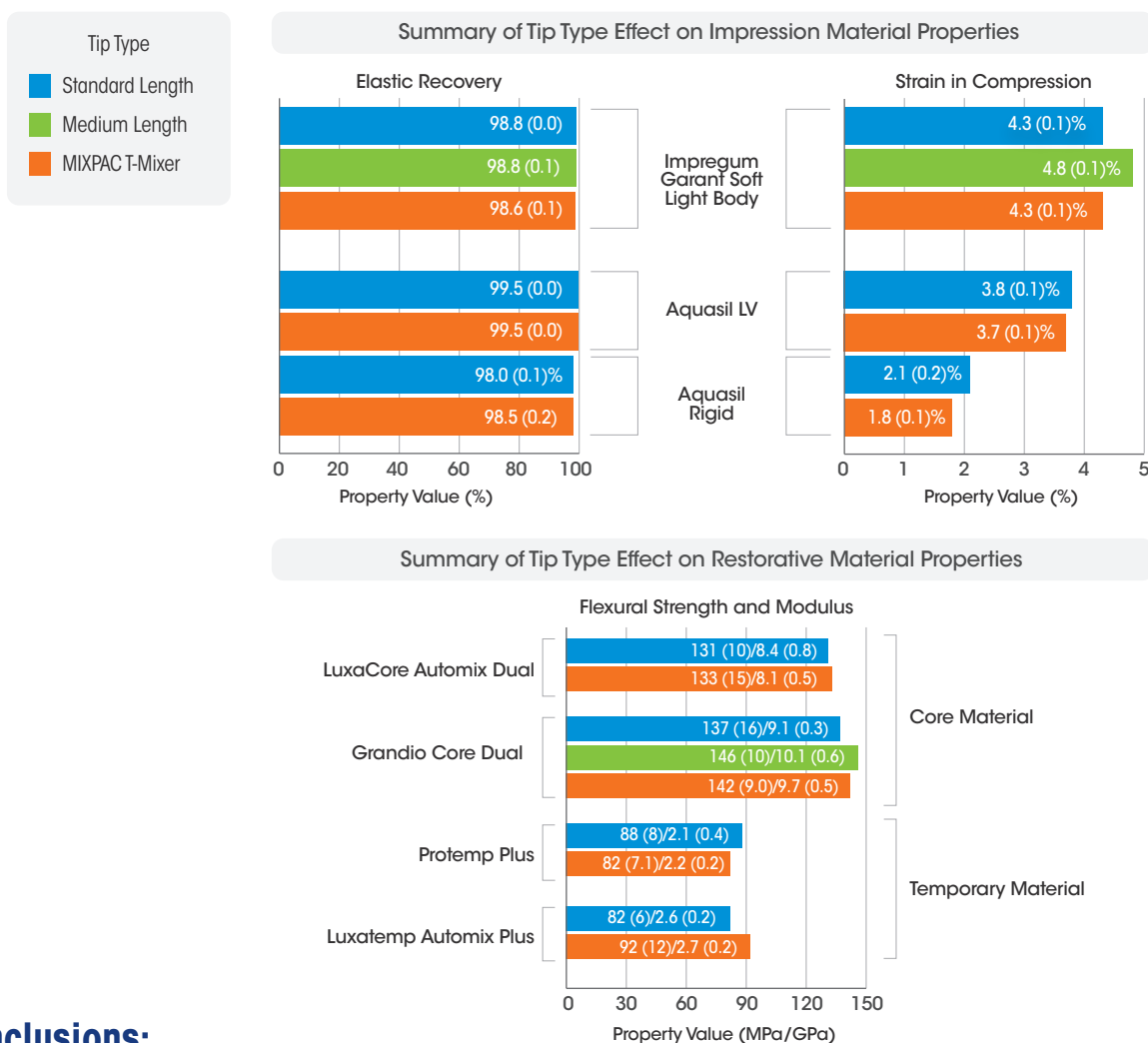
- Three elastomeric impression materials of heavy- and light-body viscosities: *Impregum Garant Soft Light Body* (3M ESPE), and *Aquasil LV* and *Rigid* (DENTSPLY Caulk).
- Two crown and bridge materials: *Protemp Plus* (3M ESPE) and *Luxatemp Automix Plus* (DMG).
- Two composite materials: *Grandio Core Dual Cure* (VOCO) and *LuxaCore Automix Dual* (DMG).

Tests:

- Elastic recovery (ISO 4823-9.7), and strain-in-compression (ISO 4823-9.8) for the impression materials
- Flexural strength and modulus for the crown and bridge materials and composites

Replications: n=5

Results:



Conclusions:

MIXPAC T-Mixer mixing tips yielded similar critical mechanical properties values for the materials tested compared to values produced by standard mixing tips and did not have a deleterious effect on properties.

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