

THE DENTAL ADVISOR™

"Improving Patient Care Through Research & Education"



This month's feature of THE DENTAL ADVISOR is taken from the May 2005 issue, Vol. 22, No. 4.

THE DENTAL ADVISOR evaluates and rates dental products and equipment by objective clinical and laboratory protocols. The publication consists of clinical evaluations, comprehensive long-term evaluations, product comparisons and specialty reports. To subscribe, please call 734-665-2020.

EDITORS

John W. Farah, D.D.S., Ph.D.

John M. Powers, Ph.D.

EMAIL

info@dentaladvisor.com

WEB SITE

www.dentaladvisor.com

BEST OF THE BEST IMPRESSION MATERIALS

Five impression materials highly rated by THE DENTAL ADVISOR are compared to determine the "Best of the Best." The impression materials were regular-set addition silicones with two viscosities, putty and injectable light body. The ratings, as previously determined by THE DENTAL ADVISOR, are shown in **Table 1**.

Table 1

Company	Putty	Light Body	Rating
Coltène/Whaledent	<i>AFFINIS Putty Soft</i>	<i>AFFINIS Light Body</i>	4.5+/92%
DENTSPLY Caulk	<i>Aquasil</i>	<i>Aquasil Ultra XLV</i>	4.5+/93%
Heraeus Kulzer	<i>Flexitime</i>	<i>Flexitime</i>	5+/97%
Ivoclar Vivadent	<i>Virtual</i>	<i>Virtual</i>	5+/96%
Sultan Healthcare	<i>Genie Ultra</i>	<i>Genie Ultra</i>	5+/96%

"Best of the Best" Criteria

Both viscosities were evaluated and rated on a 1-5 scale (1 = poor, 5 = excellent).

Putty

- Ease of mixing – Easy to incorporate base and catalyst
- Lack of stickiness – Does not stick to fingers or scoops
- Flows at seat – Not stiff, flows and adapts to teeth and trays
- Blending of light body and putty – Blends well with light body without displacing it completely

Light Body

- Viscosity/flow – Extrudes easily from cartridge
- Stackability – Flows well, but stacks; not runny
- Color differentiation – Good color contrast between putty and light body allows for easy reading of margins
- Lack of voids/porosity – Hydrophilic, adapts to preparation well; no voids or air bubbles

Clinical Protocol

Twenty impressions were made by consultants using each of the impression materials listed in **Table 1**. The outlined characteristics of the putty and light body were rated on a scale of 1-5, and the values were averaged as shown in **Table 2**. Listed below are the final rankings of each viscosity.

Putty

- 1st **Virtual**
- 2nd **Genie Ultra**
- 3rd **Flexitime**
- 4th **Aquasil**
- 5th **AFFINIS Putty Soft**

Light Body

- 1st **Flexitime**
- 2nd **Genie Ultra**
- 3rd **Aquasil Ultra XLV**
- 4th **Virtual**
- 5th **AFFINIS Light Body**

Putty/Light Body Combination

- 1st **Flexitime**
- 2nd **Genie Ultra**
- 3rd **Virtual**
- 4th **Aquasil/Aquasil Ultra XLV**
- 5th **AFFINIS Putty Soft/AFFINIS Light Body**

Summary

The five impression materials were highly rated by THE DENTAL ADVISOR in individual clinical evaluations. While all are excellent materials, the objective of this evaluation was to select the “Best of the Best.” Consultants found that **Virtual** regular-set putty was the easiest to mix, lacked stickiness and was least difficult to form in the tray and seat. The deep blue color is excellent for visual clarity of detail. **Flexitime** regular-set light body stacks well and flows evenly over the preparation, creating minimal voids or porosities. The bright green color allows for very good clarity of margin detail. As a putty and light body combination, consultants identified **Flexitime** as the “Best of the Best.” Final impressions taken with **Flexitime** provide the most detail, least voids and best visualization of anatomy. ■

Table 2

Putty	AFFINIS Putty Soft	Aquasil	Flexitime	Genie Ultra	Virtual
Ease of mixing	4.00	4.50	4.75	5.00	4.75
Lack of stickiness	4.50	5.00	4.75	4.75	5.00
Flow at seat	4.50	4.50	5.00	4.75	4.75
Blending of light body and putty	4.00	4.75	4.75	4.75	5.00
TOTAL	17.00	18.75	19.25	19.25	19.50

Light Body	AFFINIS Light Body	Aquasil Ultra XLV	Flexitime	Genie Ultra	Virtual
Viscosity/flow	4.00	5.00	5.00	4.75	4.50
Stackability	3.50	4.50	5.00	5.00	4.75
Color differentiation	4.25	4.75	5.00	5.00	4.75
Lack of voids/porosity	4.50	5.00	4.75	4.75	4.75
TOTAL	16.25	19.25	19.75	19.50	18.75

Putty/Light Body	AFFINIS	Aquasil	Flexitime	Genie Ultra	Virtual
TOTAL	33.25	38.00	39.00	38.75	38.25



THE DENTAL ADVISOR IMPRESSION MATERIALS

CONCLUSION

All five impression materials were highly rated by THE DENTAL ADVISOR and are excellent materials.

*Based on clinical criteria, **Flexitime** was awarded “Best of the Best” in the Light Body and Putty/Light Body Combination categories, and **Virtual** was awarded “Best of the Best” in the Putty category.*



Flexitime

Heraeus Kulzer

Rated “Best of the Best” in Light Body and Putty/Light Body Combination categories



Virtual

Ivoclar Vivadent

Rated “Best of the Best” in Putty category