

REALITY NOW

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2017

The Ratings | IMPRESSION MATERIALS – VINYL POLYSILOXANE

1



(4.5)

Aquasil Ultra+

INTRODUCTION/MANUFACTURER'S CLAIMS

Third version of the venerable hydrophilic VPS material. Its improvements include purported increases in hydrophilicity and tear strength. Of the evaluators who used the previous version and were able to compare it to this new one, half felt that Aquasil Ultra+ is better, while the other half stated both versions were about the same. Two evaluators found Aquasil Ultra+ to be slightly better, while one noted there was a clear difference.

However, when it comes to hydrophilicity, two-thirds of the evaluators found Aquasil Ultra+ to be more hydrophilic, while the other third did not find a difference between the two versions. One evaluator noted that there is no difference on a dry prep, but in the presence of moisture, there is a big difference.

When the evaluators were asked to evaluate the difference in hydrophilicity between Aquasil Ultra+ and other VPS materials they have used, two-thirds stated Aquasil Ultra+ is better, 24% did not think there were significant differences, and 9% considered other materials to be better.

Concerning the fit of restorations, most (85%) evaluators found both versions to produce similar results, while the other 15% thought Aquasil Ultra+ restorations were better. When compared to all VPS materials, most (86%) evaluators thought there was virtually no differences between the brands, while 10% thought Aquasil Ultra+ restorations were better and 4% had better fitting restorations with other materials.



RAVES & RANTS

- + All syringe materials have excellent flow
- + Really good tear strength
- Medium and Heavy fast set still fairly soft at MRT
- No Superfast or Xtra versions

MANUFACTURER

Dentsply Sirona Restorative
www.dentsplysirona.com/en

PRICES

KITS	Digit
Introductory Kits (Cartridge + Digit)	Small (80ml/50 digits)
\$99.99	\$164.18
REFILLS	(\$2.05/ml or
Cartridges	\$3.28/digit)
\$109.99/200ml	Large
(\$0.55/ml)	(120ml/50 digits)
DECA	\$185.31
\$395.42/760ml	(\$1.54/ml or
(\$0.52/ml)	\$3.71/digit)

SHELF LIFE

3 years

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VISCOSITIES AND COLORS

Viscosity	Color
XLV	Muted orange
LV	Teal
Medium	Purple
Rigid	Green
Heavy	Green

Rigid was considered stiff enough for use in a sideless, closed bite tray by all the evaluators. One evaluator, however, stated that he still preferred putty.

Most (90%) evaluators found the colors to be easy to read, while the other 10% thought they were difficult. One evaluator liked the LV and Medium colors, while another felt LV was too dark. A third did not like the green of Rigid/Heavy, stating it was gross and reminded him of the Mucinex TV commercial!

DISPENSING

Conventional cartridges, DECA for mixing machines, and unidose (digit). For the syringe materials, most (70%) evaluators used conventional cartridges, 10% loaded an intraoral syringe, 10% used digit, and 10% did not have a preference. Four evaluators did not like digit at all, with two believing it was not economical and another finding it cumbersome to use.

POUR TIME DELAY

30 minutes for stone and 60 minutes for epoxy after disinfection.

SHARK FIN HEIGHT

Viscosity Combinations	Set Time	Shark Fin Height (mm)
XLV/Heavy	Regular	33+
XLV/Heavy	Fast	33+
LV/Heavy	Regular	33+
LV/Heavy	Fast	33+
Medium	Regular	32.8
Medium	Fast	32.5

This test shows that both XLV and LV have plenty of flow since they both completely fill the Shark Fin (33+). Even the medium body has decent flow, since it came close to filling the Shark Fin.



Heavy/XLV Reg Set
(33+mm)



Heavy/XLV Fast Set
(33+mm)



Heavy/LV Reg Set
(33+mm)



Heavy/LV Fast Set
(33+mm)



**Medium Reg Set
(32.8mm)**



**Medium Fast Set
(32.5mm)**

EXTRAORAL WORKING TIME (REGULAR SET)

Set Time	Time (min)
Regular	2.25
Fast	1.2

INTRAORAL WORKING TIME

Of the evaluators who used the regular set materials to impress 6+ preps, most (87%) considered it to be adequate, while the other 13% needed extra time. One evaluator noted that you need to hustle to impress 6+ preps.

MOUTH REMOVAL TIMES

Set Time	Time (min)
Regular	5.0
Fast	3.0

Note: Even though the manufacturer listed MRT for fast set is 2.5 minutes, our hardness tests (see below) show that the heavy and medium materials are still relatively soft at 2.5 minutes. (Rigid set adequately in 2.5 minutes.) We believe it would be prudent to allow at least 3.0 minutes from the beginning of mixing before removing the impression from the patient's mouth.

HARDNESS (SHORE A UNITS)

Viscosity	Set Time	MRT	24h
Medium	Regular	54.5	68.5
Medium	Fast	37.5	68.5
Rigid	Fast	73.0	84.0
Heavy	Regular	54.5	72.0
Heavy	Fast	45.5	72.5

TEAR STRENGTH

Most (86%) of the evaluators had no tears, while the other 14% had a few tears. Of the evaluators who used the previous version and were able to compare it to this new one, most (74%) felt that both versions are about the same, while the other 26% considered Aquasil Ultra+ to be better. One evaluator noted lab tests have shown that both versions are equal.

When the evaluators were asked to evaluate the difference in tear strength between Aquasil Ultra+ and other VPS materials they have used, most (57%) stated Aquasil Ultra+ is better, while the other 43% did not think there were significant differences. Two evaluators performed tear strength tests in their labs and found no major differences in tear strength, while another noted another study found Aquasil Ultra+ to be stronger.

PATIENT RESPONSE

No patients complained about the taste and pleasant mint odor. One evaluator found the mint scent to be stronger than the previous version.

PACKAGING

Our evaluation samples were shipped in a bulk method without the actual packaging. The conventional cartridges and those destined for a mixing machine are typical and unchanged from the previous version, as are the digit unidose, which has three parts: single-use cartridge, mixing tip, and syringe dispenser.

Conventional and mixing machine cartridges are color-coded for their viscosities, and plainly show whether they are regular or fast set along with their working and mouth removal times as well as the expiration dates.

Digit tips are also color-coded and are imprinted with the MRT and expiration date. To use, install an intraoral tip on the end of the mixer, break off the sealed orifice cover on the cartridge using the slot in the dispenser plunger, insert the cartridge into the mixer, and place this assembly into the dispenser. There are two sizes of cartridges: small (1.6ml) and large (2.4ml). The small cartridges have enough material for 2-3 preparations, while the large ones can be used for 3-4 preparations.

Since we didn't really receive the products in their actual boxes, the evaluators were not able to comment on that aspect, but they felt the cartridges were adequate, but nothing special.

Note that B4, the flow promoter that was packaged with the previous version, is now an a la carte product and does not come in the kit any longer.

DIRECTIONS

Plain paper, multilingual, annoying foldout. Information is reasonably straightforward and fairly typical for impression materials. Digit comes with a coated paper card illustrating its assembly with good color photos although they feature the previous version's colors. Most evaluators thought the directions were adequate.

REALITY

STRENGTHS Predicable impressions. Nice colors that are easy to read. Excellent hydrophilicity, tear strength and flow. Option of digit unidose. Rigid works well in sideless, closed bite trays. Has a pleasant mint scent.

WEAKNESSES Elimination of previous version's Superfast and Xtra set times. Fast set versions of Heavy and Medium were still not completely set at MRT in our tests.

BOTTOM LINE

Not much different than its processor although it still leads the pack as the impression material that sets the standards for excellence, but we miss Superfast and Xtra.

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