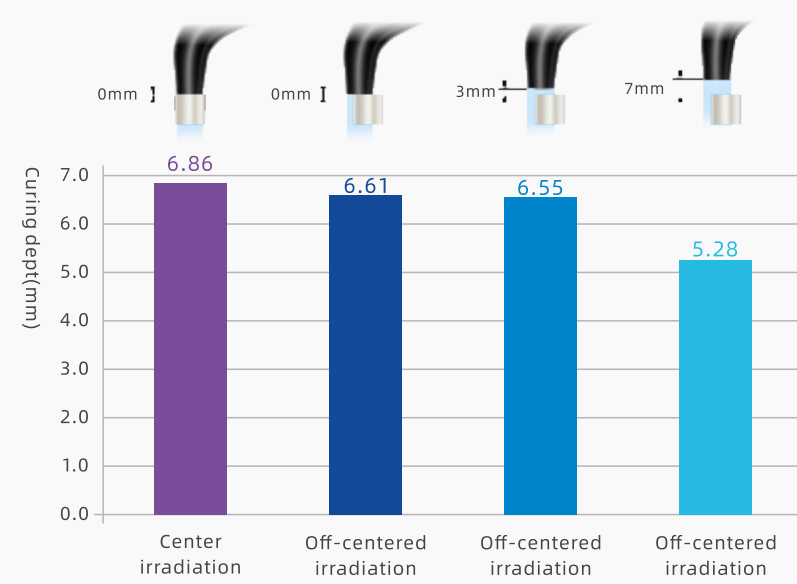




Off-centered irradiation can also achieve good curing depth

In the case of off-centered illumination, X-Cure also has excellent curing ability. Its curing depth can reach 5.28 mm even in the case of a center offset irradiation where is 7 mm away from the resin.



The resin used for the test was: 3M Filtek™ Bulk-Fill Posterior Restorative, Shade A3
Curing time: 20 seconds

Note: The above test is an in vitro resin test.

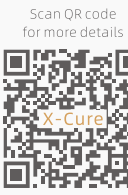
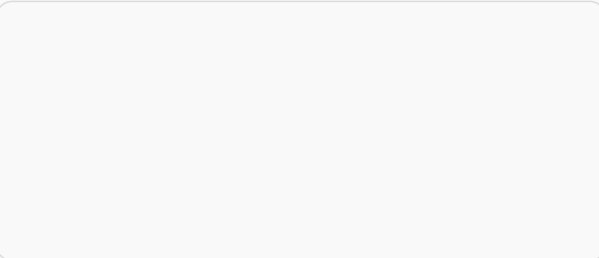


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Resin curing hardness test

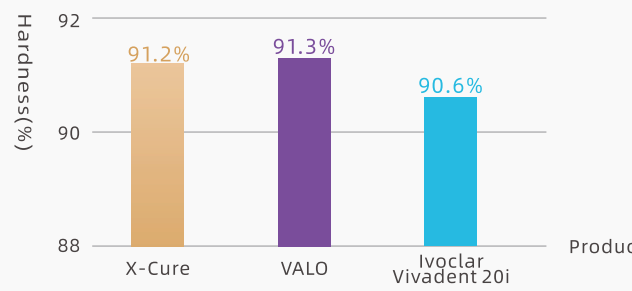
The curing hardness of the resin directly reflects the curing effect of the Curing Light. The test results are as follows.

Test content: Select X-Cure and other brands' high-end Curing Light products. According to different resin hardness and curing time, the Shore hardness tester TH210 was used for testing.

Formula: bottom hardness / top hardness × 100%

Resin used for test: 3M ESPE Z350

According to the test standard of Ivoclar Vivadent (from Ivoclar Vivadent official website), if the result is more than 80%, it means that the resin has been cured.



Note:
In order to avoid experimental error, the data in the diagram is the average hardness of curing obtained after multiple tests of each Curing Light device.

Conclusion: A hardness percentage greater than 80% indicates that the resin has been fully cured.

By this standard, all of the above machines are far above the standard. As the data shown in the diagram, the curing effect of X-Cure is better than that of Ivoclar Vivadent 20i, and is almost the same as that of VALO (0.01% difference).

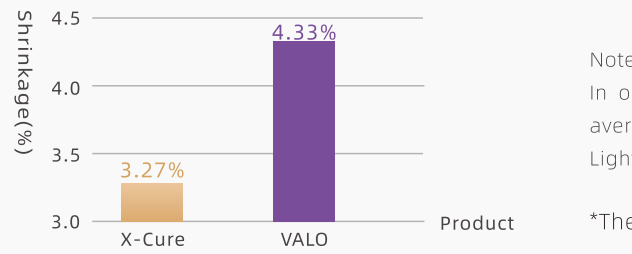
Resin curing shrinkage test

The curing effect is also closely related to the shrinkage of the resin during the curing process. The greater the curing shrinkage, the greater the volume change during curing, and the more likely it causes micro-leakage, which in turn leads to secondary caries and postoperative sensitivity.

In order to learn the effect of the Curing Light device on the shrinkage of the resin, the test results of the curing shrinkage of the resin are as follows.

Test method: Refer to ISO17304-2013 standard, test the volume and mass of the resin before and after curing by immersion method, and calculate the volume shrinkage after curing of the resin.

Resin used for test: 3M ESPE Z350XT



Note:
In order to avoid experimental errors, the data in the diagram is the average curing shrinkage rate obtained after multiple tests of each Curing Light.

*The above test data comes from the Woodpecker Laboratory

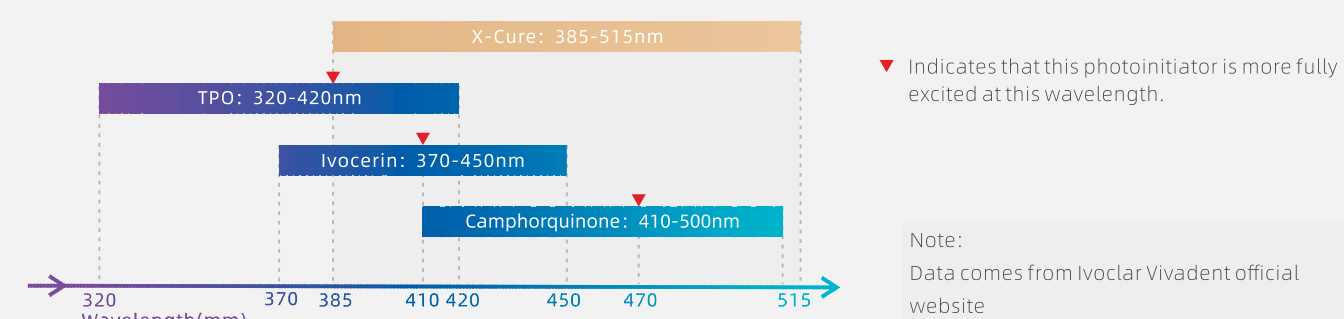
Conclusion: The curing shrinkage of the resin produced by different Curing Light machines is between 2% and 5%. It can be seen from the data that the X-Cure has lower resin shrinkage and better curing effect than VALO.

Wide-spectrum Curing

The photoinitiators of most resin in the market: Camphorquinone, TPO, Ivocerin.

The main absorption wavelength of these three types of photoinitiators is 385-515nm.

The wavelength of X-Cure is 385nm-515nm, being applicable for the effective curing of most resins in the market.

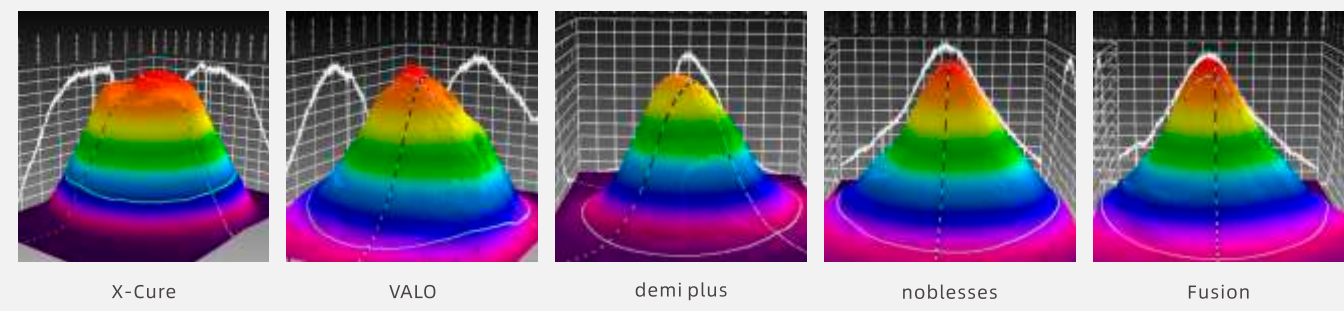


Uniform light intensity brings more uniform curing

The uniform distribution of light is important for resin curing in that uniform light output can provide uniform curing effect.

Standard of good spatial light intensity distribution: flat top, no sag, no multiple peaks.

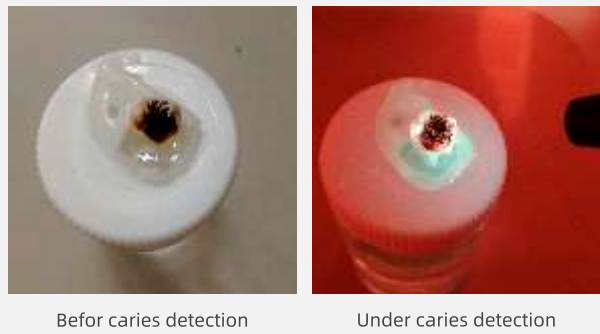
The figure below shows that X-Cure performs better than other Curing Light and provides a more uniform curing effect.



Caries detection

In order to make it easier for doctors to detect dental caries, use the caries detection function (Check mode) of X-Cure.

Turn on the violet light irradiation, wear the special glasses, and you can see the caries in orange color, so that the doctor can find the caries at a glance.



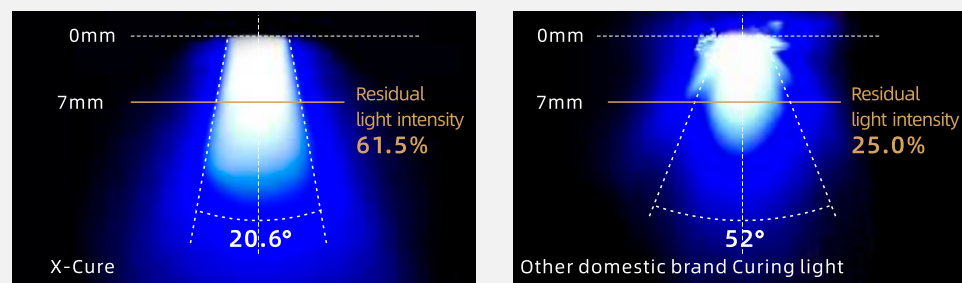
The highest light intensity can reach 3000mw/cm²

The curing of resin needs enough light intensity. High light intensity ensures adequate curing depth, and reduces curing time, greatly increasing curing efficiency.

X-Cure is equipped with 10w LED. The highest light intensity can reach 3000mw/cm².

Guarantee through curing. Except High mode, Soft mode of 1000mw/cm² light intensity is for option.

Irradiation of X-Cure



Uniform light output, strong light penetration and a light emission angle of only 20.6°.

The light emission angle of other brand Curing Light device is 52°.

Light output of X-Cure is more focused and ensures a good deep curing.

At 7mm away from the light source, the light intensity can reach 61.5%, but that of other domestic brands Curing Light device is only 25.0%.

Model	0mm	1mm	2mm	3mm	4mm	5mm	6mm	7mm
X-Cure	100.0%	95.7%	89.7%	82.9%	77.8%	71.8%	67.5%	61.5%

Light attenuation of X-Cure

As the distance increases, the light intensity of the Curing Light will decay.

As can be seen in the figure, compared with 3M and Ivoclar Vivadent product, X-Cure has less attenuation of light intensity when the illumination distance is increased.

