









Initial LiSi Block

Lithium Disilicate Redefined for CAD/CAM

Key Map	
4	Strong
∞	Durable
* CZ *	Aesthetic
(7)	Time-saving
(\$)	Cost-efficient





The Wear Behavior of Glass-Ceramic CAD/CAM Blocks against Bovine Enamel

New

Someya T, Kasahara M, Takemoto S, Hattori M. Materials 2023, 16, 6839.

Impact of glazing on wear, fracture load, and optical properties of a new fully crystallized lithium disilicate ceramic material

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Fouda AM, Stawarczyk B, Ozcan M, Singer L, Bourauel C. 2023. J Mech Behav Biomed Mater 2023.

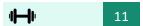
Bonding Strength for Lithium Disilicate Glass-Ceramics in Resin Cement System.

Kato H, Hirano K, Shinozaki Y. 2023. 52nd Annual Meeting & Exhibition of the AADOCR. J Dent Res Vol 102(Spec Iss A):0406.

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Fitting Accuracy of CAD/CAM Fabricated Lithium Disilicate Glass-ceramic Restoration

Azuma T, Akiyama S, Shinozaki Y. 2023. 101st General Session & Exhibition of the IADR. J Dent Res Vol 101 (Spec issue B):1077.









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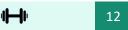
Marginal adaptation of CAD/CAM milled lithium disilicate glass ceramic crowns

Kojima K, Nagaoka K, Murata Y, Yamamoto K, Akiyama S, Hokii Y, Fusejima F. 2022. J Osseointegr; 14(4):201-204.



<u>Comparison of dimensional accuracy of lithium disilicate</u> <u>CAD/CAM ceramics</u>

Yamamoto K, Murata Y, Nagaoka K, Akiyama S, Hokii Y, Fusejima F. 2022. J Osseointegr; 14(4), 205–208.



An investigation on fatigue, fracture resistance, and color properties of aesthetic CAD/CAM monolithic ceramics

Fouda A, Atta O, Ozcan M, Stawarczyk B, Glaum R, Bourauel. 2023. Clin Oral Invest 27, p2653–2665.



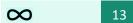
Evaluation of two lithium disilicate system using a novel prosthodontic Functional Index for Teeth (FIT)

Ferrari Cagidiaco E, Ambu L, Ferrari M. 2022. 45° EPA Congress.



Acid Resistance of Lithium Disilicate Glass Ceramics

Onodera M, Azuma T, Murata Y, Yamamoto K, Hokii Y, Akiyama S, Shinozaki Y. 2023. 52nd Annual Meeting & Exhibition of the AADOCR. J Dent Res Vol. 102 (Spec Iss A): 0760.



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#	Strong
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Effect of Firing Process on Accuracy of Machinable LDS Blocks.

Hokii Y, Yamamoto K, Fusejima F. 2022. PER/IADR Oral Health Research Congress. J Dent Res Vol 101 (Spec issue C): P111.



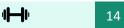
Evaluation of Acid Resistance for Novel Machinable Lithium Disilicate Glass-Ceramics.

Toshihiko A, Mizuho O, Yusuke O, Shinegori A, Fusejima F. 2022. 51st Annual Meeting & Exhibition of the AADOCR. 46th Annual Meeting of the CADR. J Dent Res Vol 101 (Spec Iss A):Final Presentation ID: 0472



Evaluation of Post Milling Microcrack Formation in Lithium Disilicate Block.

Murata Y, Hokii Y, Shinegori A, Fusejima F. 2022. 100th General Session & Exhibition of the IADR. J Dent Res 101 (Spec Iss B):1237.



Wear behavior and abrasiveness of monolithic CAD/CAM ceramics after simulated mastication.

Fouda AM, Atta O, Kassem A, Desoky M, Bourauel C. Clin Oral Invest 26, 6593 - 6605 (2022).



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Key Map	
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Chemical durability of CAD/CAM glass-ceramic blocks.

Hoshino T, Matsudate Y, Sasaki K. 2019. 97th General Session & Exhibition of the IADR. J Dent Res 98 (Spec Iss A):abstract number 0100.



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Mechanical properties and microstructure of novel Lithium disilicate glass ceramic block for CAD/CAM.

Nagaoka K, Kato K, Akiyama S, Kojima K, Miyake T, Azuma T, Shiraki K, Yamamoto K, Kumagai T. 2019. ICP and EPA Joint Meeting.



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<u>In vitro Surface Roughness of Novel Lithium Silicate</u> CAD/CAM Material.

Valcanaia A, Neiva G. 2020. 98th General Session & Exhibition of the IADR. J Dent Res 99 (Spec Iss A): abstract number 1827.



15

Edge Chipping Resistance of Glass Ceramic Block for CAD/CAM.

Kato K, Kumagai T, Akiyama, Kojima K, Miyake T, Azuma T, Nagaoka K, Shiraki K, Fujimoto A, Yamamoto K. 2020. 98th General Session & Exhibition of the IADR. J Dent Res 99 (Spec Iss A):abstract number 0083.



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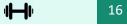






<u>Influence of Crystallization Firing on the Fit of Lithium</u> Silicate Inlays.

Niizuma Y, Kobayashi M, Sugai R, Mizukami H, Manabe A. 2021. 99th General Session & Exhibition of the IADR. 1578.



Wear properties of lithium silicate glass ceramic block for CAD/CAM.

Kojima K, Kumagai T, Kato K, Akiyama S, Miyake T, Azuma T, Nagaoka K, Shiraki K, Yamamoto K, Sato T. 2019. 97th General Session & Exhibition of the IADR. J Dent Res 98 (Spec Iss A): abstract number 1259.



Wear resistance of CAD/CAM glass ceramic blocks.

Hoshino T, Matsudate Y, Sasaki K. 2020. 98th General Session & Exhibition of the IADR. J Dent Res 99 (Spec Iss A): abstract number 1823.



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Evaluation of Acid Resistance for Novel Lithium Disilicate Glass-Ceramic Block.

Azuma T, Shigenori A, Fusejima F. 2021. CED-IADR/NOF Oral Health Research Congress. J Dent Res 100 (Spec Iss B): abstract number 0233.



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<u>Evaluation of shear bond strength of glass-ceramic CAD-CAM materials.</u>

Vombraut T, D'haese R, Sabrosa E, Geber K, Vandeweghe S. 2021. CED-IADR/NOF Oral Health Research Congress. J Dent Res 100 (Spec Iss B):abstract number 0203.



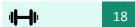
<u>Fitting evaluation after heat treatment of lithium disilicate glass ceramic block for CAD/CAM.</u>

Murata Y , Yamamoto K, Nagaoka K, Azuma T, Kojima K, Akiyama S, Fusejima F. ICP 2021 Virtual Meeting.



<u>CAD/CAM fabricated prosthetic accuracies of Lithium</u> Disilicate Glass Ceramic Block.

Yamamoto K, Hokii Y, Fusejima F. 2021. ADM 2021 Virtual Meeting.



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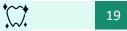
A randomized controlled clinical trial on press and block lithium disilicate partial crowns: a pilot study.

Kojima K, Ferrari Cagidiaco E, Keeling A, Ferrari M. 2020. J Osseointegr. 12(3):215-221.

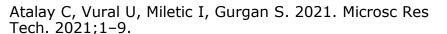


<u>Fracture-behavior of CAD/CAM ceramic crowns before</u> and after cyclic fatigue aging.

Garoushi S, Säilynoja E, Vallittu PK, Lassila L. 2021. Int J Prosthodont.



Shear bond strengths of two newly marketed selfadhesive resin cements to different substrates: A light and scanning electron microscopy evaluation.



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Full-Paper

Initial LiSi Block

New

TITLE	The Wear Behavior of Glass-Ceramic CAD/CAM Blocks against Bovine Enamel
REFERENCE	Someya T, Kasahara M, Takemoto S, Hattori M. Materials 2023, 16, 6839. https://www.mdpi.com/1996-1944/16/21/6839 open access

LiSi block was considered a wear-friendly material because the wear volume of both, abrader and substrate, was small. Vickers hardness and flexural strength values of LiSi Block were high and similar to I those of e.max CAD



This study suggests that the HDM, High Density Micronization, technology for CAD/CAM – in which smaller crystals are dispersed in higher density – can improve the wear resistance of LiSi Block restorations.

TITLE	Impact of glazing on wear, fracture load, and optical properties of a new fully crystallized lithium disilicate ceramic material
REFERENCE	Fouda AM, Stawarczyk B, Ozcan M, Singer L, Bourauel C. 2023. J Mech Behav Biomed Mater 2023. https://doi.org/10.1016/j.jmbbm.2023.106102
Ceramic wear was lower in LiSi Block Polished group than in the other groups.	



Both treatments of LiSi Block, polishing and glazing resulted in the same abrasiveness, translucency and fracture load.



Polishing LiSi Block leads to a non-abrasive surface that resists to wear and possesses favorable optical and shade matching properties.





Initial LiSi Block

TITLE	Bonding Strength for Lithium Disilicate Glass-Ceramics in Resin Cement System
REFERENCE	Kato H, Hirano K, Shinozaki Y. 2023. 52 nd Annual Meeting & Exhibition of the AADOCR. J Dent Res Vol 102(Spec Iss A):0406. https://iadr.abstractarchives.com/abstract/52am-3823948/bonding-strength-for-lithium-disilicate-glass-ceramics-in-resin-cement-system
The combination G-CEM ONE+ G-Multi Primer+ Initial LiSi Block resulted in higher bond strength than other groups tested at both, 24h and 5.000 thermocycles.	
This study suggests that the combination of G-CEM ONE and Initial LiSi Block may result in long-term clinical success.	

TITLE	Fitting Accuracy of CAD/CAM Fabricated Lithium Disilicate Glass-ceramic Restoration
REFERENCE	Azuma T, Akiyama S, Shinozaki Y. 2023. 101st General Session & Exhibition of the IADR. J Dent Res Vol 101 (Spec issue B):1077. https://ww3.aievolution.com/iadr/index.cfm?do=ev.viewEv&src=ext&ev=718 1
Accuracy of LiSi Block was at the same level as that of e.max without crystallization. Gap of e.max	

restoration. Distortion or changes in dimension may lead to clinical failure. LiSi Block's technology

may help to prevent distortion. LiSi Block does not need firing, not only saving time, but also contributing to an accurate

significantly increased after crystallization.





Full Paper

TITLE	Marginal adaptation of CAD/CAM milled lithium disilicate glass ceramic crowns
REFERENCE	Kojima K, Nagaoka K, Murata Y, Yamamoto K, Akiyama S, Hokii Y, Fusejima F. 2022, J Osseointegr;14(4):201-204. https://doi.org/10.23805/JO.2022.14.04.1
LiSi Block showed the best marginal fit, and it was not affected by heating treatment.	
LiSi Block does not need firing, not only saving time, but also contributing to an accurate restoration. Distortion or changes in dimension may lead to clinical failure. LiSi Block's technology may help to prevent distortions.	

TITLE	Comparison of dimensional accuracy of lithium disilicate CAD/CAM ceramics.
REFERENCE	Yamamoto K, Murata Y, Nagaoka K, Akiyama S, Hokii Y, Fusejima F. 2022. J Osseointegr; 14(4), 205–208. https://doi.org/10.23805/JO.2022.14.04.2
LiSi Block showed the best dimensional accuracy before and after firing, with and adequate milling time to process a crown.	
LiSi Block does not need firing, not only saving time, but also contributing to an accurate restoration. Distortion or changes in dimension may lead to clinical	

failure. LiSi Block's technology may help to prevent distortions.

TITLE	An investigation on fatigue, fracture resistance, and color properties of aesthetic CAD/CAM monolithic ceramics
REFERENCE	Fouda A, Atta O, Ozcan M, Stawarczyk B, Glaum R, Bourauel.2023. Clin Oral Invest 27, p2653–2665. https://doi.org/10.1007/s00784-022-04833-y
LiSi Block showed the highest translucency parameter, and its high fracture resistance was not affected by aging.	
LiSi Block does not require firing. Its high load bearing capacity may help to prevent catastrophic failure even in the presence of high masticatory forces.	





TITLE	Evaluation of two lithium disilicate system using a novel prosthodontic Functional Index for Teeth (FIT)
REFERENCE	Ferrari Cagidiaco E, Ambu L, Ferrari M. 2022. 45° EPA Congress. Abstract ID: PP16. <u>link not available yet</u>
The s	success rate of LiSi Block was 100% after 2-year of clinical service
Randomized clinical trial protocols are one of highest level of evidence-based dentistry. Therefore, results presented here, with 100% success rate of LiSi Block, are outstanding.	

TITLE	Acid Resistance of Lithium Disilicate Glass Ceramics	
REFERENCE	Onodera M, Azuma T, Murata Y, Yamamoto K, Hokii Y, Akiyama S, Shinozaki Y. 2023. 52 nd Annual Meeting & Exhibition of the AADOCR. J Dent Res Vol. 102 (Spec Iss A): 0760 https://iadr.abstractarchives.com/abstract/52am-3824170/acid-resistance-of-lithium-disilicate-glass-ceramics	
	LiSi Block had lower amount of acid dissolution than e.max. The dissolved amount of LiSi Block bleach shade was at the same level as zirconia and the control group.	
Low chemic	Low chemical solubility of LiSi Block may help in successful clinical outcome in the acidic environment of the oral cavity.	

TITLE	Effect of Firing Process on Accuracy of Machinable LDS Blocks
REFERENCE	Hokii Y, Yamamoto K, Fusejima F. 2022. PER/IADR Oral Health Research Congress. J Dent Res Vol 101 (Spec issue C): P111. https://per-iadr2022.com/docs/Abstract_Book.pdf pg186
LiSi Block crowns showed the highest accuracy compared to e.max and CEREC Tessera and firing has not affected its accuracy.	
LiSi Block does not need firing, not only saving time, but also contributing to an accurate restoration. Distortion or changes in dimension may lead to clinical failure. LiSi Block's technology may help to prevent distortions.	





Initial LiSi Block

TITLE	Evaluation of Acid Resistance for Novel Machinable Lithium Disilicate Glass- Ceramics
REFERENCE	Toshihiko A, Mizuho O, Yusuke O, Shinegori A, Fusejima F. 2022. 51st Annual Meeting & Exhibition of the AADOCR. 46th Annual Meeting of the CADR. J Dent Res Vol 101 (Spec Iss A):Final Presentation ID: 0472 https://iadr.abstractarchives.com/abstract/51am-3649098/evaluation-of-acid-resistance-for-novel-machinable-lithium-disilicate-glass-ceramics
In acidic environment, Initial LiSi Block maintained the gloss and showed the lowest amount of dissolution	
Low chemical solubility of LiSi Block may help in successful clinical outcome in the acidic environment of the oral cavity.	

TITLE	Evaluation of Post Milling Microcrack Formation in Lithium Disilicate Block
REFERENCE	Murata Y, Hokii Y, Shinegori A, Fusejima F. 2022. 100th General Session & Exhibition of the IADR. J Dent Res 101 (Spec Iss B):1237. https://iadr.abstractarchives.com/abstract/22iags-3702456/evaluation-of-post-milling-microcrack-formation-in-lithium-disilicate-block
This study suggests that the HDM technology for CAD/CAM - in which smaller crystal are dispersed in higher density - existing in LiSi Block, can reduce the risk of microcrack formation.	

Full Paper

TITLE	Wear behavior and abrasiveness of monolithic CAD/CAM ceramics after simulated mastication
REFERENCE	Fouda AM, Atta O, Kassem A, Desoky M, Bourauel C. Clin Oral Invest (2022). https://doi.org/10.1007/s00784-022-04611-w
This study suggests that the HDM technology for CAD/CAM - in which smaller crystal are dispersed in higher density - can improve the wear resistance LiSi Block restorations.	





TITLE	Chemical durability of CAD/CAM glass-ceramic blocks
REFERENCE	Hoshino T, Matsudate Y, Sasaki K. 2019. 97th General Session & Exhibition of the IADR. J Dent Res 98 (Spec Iss A):abstract number 0100. https://iadr.abstractarchives.com/abstract/19iags-3168964/chemical-durability-of-cadcam-glass-ceramic-blocks
Solubility of LiSi Block was much lower than that of the other products tested.	
Low chemical solubility of LiSi may help in successful clinical outcome in the acidic environment of the oral cavity.	

TITLE	Ē	Mechanical properties and microstructure of novel Lithium disilicate glass ceramic block for CAD/CAM
REFE	RENCE	Nagaoka K, Kato K, Akiyama S, Kojima K, Miyake T, Azuma T, Shiraki K, Yamamoto K, Kumagai T. 2019. ICP and EPA Joint Meeting.
The flexural strength of LiSi Block was 17% and 63% higher than Celtra Duo and Vita Enamic respectively.		
Excellent values of flexural strength presented by LiSi Block may help support an outstanding clinical outcome even in the presence of high chewing forces.		

TITLE	In vitro Surface Roughness of Novel Lithium Silicate CAD/CAM Material
REFERENCE	Valcanaia A, Neiva G. 2020. 98th General Session & Exhibition of the IADR. J Dent Res 99 (Spec Iss A): abstract number 1827. https://iadr.abstractarchives.com/abstract/20iags-3324513/in-vitro-surface-roughness-of-novel-lithium-silicate-cadcam-material
Polishing resulted in the lowest surface roughness.	
Not only does LiSi Block polishability saves time but it also may help reduce wear of opposing dentition or restoration.	





TITLE	Edge Chipping Resistance of Glass Ceramic Block for CAD/CAM
REFERENCE	Kato K, Kumagai T, Akiyama, Kojima K, Miyake T, Azuma T, Nagaoka K, Shiraki K, Fujimoto A, Yamamoto K. 2020. 98th General Session & Exhibition of the IADR. J Dent Res 99 (Spec Iss A):abstract number 0083. https://iadr.abstractarchives.com/abstract/20iags-3315704/edge-chipping-resistance-of-glass-ceramic-block-for-cadcam
LiSi Block presented higher resistance to edge chipping compared to e.max CAD	
Excellent fit and reduced chipping may lead LiSi Block restorations to successful long-term outcomes.	

TITLE	Influence of Crystallization Firing on the Fit of Lithium Silicate Inlays	
REFERENCE	Niizuma Y, Kobayashi M, Sugai R, Mizukami H, Manabe A. 2021. 99th General Session & Exhibition of the IADR. J Dent Res 100 (Spec Iss A):abstract number 1578. Influence of Crystallization Firing on Fit of Lithium Silicate Inlays IADR Abstract Archives	
LiSi Block had less gaps at the occlusal and cervical margins compared to e.max CAD and Vita Suprinity.		
Distortion or chan	Distortion or changes in dimension may lead to clinical failure. LiSi Block's technology helps to prevent distortions.	

TITLE	Wear properties of lithium silicate glass ceramic block for CAD/CAM
REFERENCE	Kojima K, Kumagai T, Kato K, Akiyama S, Miyake T, Azuma T, Nagaoka K, Shiraki K, Yamamoto K, Sato T. 2019. 97th General Session & Exhibition of the IADR. J Dent Res 98 (Spec Iss A): abstract number 1259. Wear properties of lithium silicate glass ceramic block for CAD/CAM IADR Abstract Archives
LiSi Block showed 90% less wear compared to e.max CAD and Celtra Duo. The chance of damaging the antagonist was also lower for LiSi Block , 25% and 75% compared to e.max and Celtra Duo respectively.	
Not only does LiSi Block polishability saves time but it also may help reduce wear of opposing dentition or restoration.	





TITLE	Wear resistance of CAD/CAM glass ceramic blocks
REFERENCE	Hoshino T, Matsudate Y, Sasaki K. 2020. 98th General Session & Exhibition of the IADR. J Dent Res 99 (Spec Iss A): abstract number 1823. https://iadr.abstractarchives.com/abstract/20iags-3294486/wear-resistance-of-cadcam-glass-ceramic-blocks
LiSi Block showed 80% less wear than e.max CAD and 25% less chance to damage the antagonist.	
Not only does LiSi Block polishability saves time but it also may help reduce wear of opposing dentition or restoration.	

TITLE	Evaluation of Acid Resistance for Novel Lithium Disilicate Glass-Ceramic Block
REFERENCE	Azuma T, Shigenori A, Fusejima F. 2021. CED-IADR/NOF Oral Health Research Congress. J Dent Res 100 (Spec Iss B): abstract number 0233. https://ced-iadr2021.com/wp-content/uploads/2021/09/Abstract-book_2021-9-20_Adjusted-version.pdf p.108
Low chemical solubility of LiSi Block may help result in successful clinical outcome in the acidic environment of the oral cavity.	

TITLE	Evaluation of shear bond strength of glass-ceramic CAD-CAM materials	
REFERENCE	Vombraut T, D'haese R, Sabrosa E, Geber K, Vandeweghe S. 2021. CED-IADR/NOF Oral Health Research Congress. J Dent Res 100 (Spec Iss B):abstract number 0203. https://ced-iadr2021.com/wp-content/uploads/2021/09/Abstract-book 2021-9-20 Adjusted-version.pdf p.99	
The shear bond strength of LiSi Block was increased after 5,000 thermocycles.		
Increased value of shear bond strength presented by LiSi Block may help support outstanding clinical outcomes.		





Initial LiSi Block

TITLE	Fitting evaluation after heat treatment of lithium disilicate glass-ceramic block for CAD/CAM
REFERENCE	Murata Y , Yamamoto K, Nagaoka K, Azuma T, Kojima K, Akiyama S, Fusejima F ICP 2021 Virtual Meeting. Iink not available
LiSi block showed the smallest gap among the products tested, and gap size of these specimens was not affected by heating treatment.	
Distortion or changes in dimension may help to clinical failure. LiSi Block's technology may help to prevent distortions.	

TITLE	CAD/CAM fabricated prosthetic accuracies of Lithium Disilicate Glass Ceramic Block
REFERENCE	Yamamoto K, Hokii Y, Fusejima F. 2021. ADM 2021 Virtual Meeting. https://doi.org/10.1016/j.dental.2021.12.104
LiSi block showed the highest accuracy compared to e.max and CEREC Tessera.	



LiSi Block does not need firing, not only saving time, but also contributing to an accurate restoration. Distortion or changes in dimension may lead to clinical failure. LiSi Block's technology may help to prevent distortions





Full Paper

TITLI	E	A randomized controlled clinical trial on press and block lithium disilicate partial crowns: a pilot study
REFE	ERENCE	Ferrari Cagidiaco E, Keeling A, Ferrari M. 2020. J Osseointegr. 12(3):215-221. <u>https://doi.org/10.23805/JO.2020.12.03.1</u>
111	After 1 year of clinical service, LiSi Press and LiSi Block presented similar clinical outcome and effectiveness, with 100% success rate.	
, <u> </u>	Randomized clinical trial protocols are one of highest level of evidence-based dentistry. Therefore, results presented here, with 100% success rate of LiSi Block, are outstanding.	

TITL	E	Fracture-behavior of CAD/CAM ceramic crowns before and after cyclic fatigue aging
REFE	RENCE	Garoushi S, Säilynoja E, Vallittu PK, Lassila L. 2021. Int J Prosthodont. <u>doi: 10.11607/ijp.7207</u>
11-11	Without the need of firing, LiSi Block presented similar load bearing capacity to that presented by e.max CAD.	
<u>-</u>	LiSi Block does not require firing. Its high load bearing capacity may help to prevent catastrophic failure even in the presence of high masticatory forces.	

TITLE	Shear bond strengths of two newly marketed self-adhesive resin cements to different substrates: A light and scanning electron microscopy evaluation
REFERENCE	Atalay C, Vural U, Miletic I, Gurgan S. 2021. Microsc Res Tech. 2021;1–9. Shear bond strengths of two newly marketed self-adhesive resin cements to different substrates: A light and scanning electron microscopy evaluation - PubMed (nih.gov)
G-CEM ONE performed as good as RelyX Universal when bonding to LiSi Block.	
The combination G-CEM ONE & LiSi Block resulted in high bond strength after 24-h storage period. This may help in producing clinical success.	

