

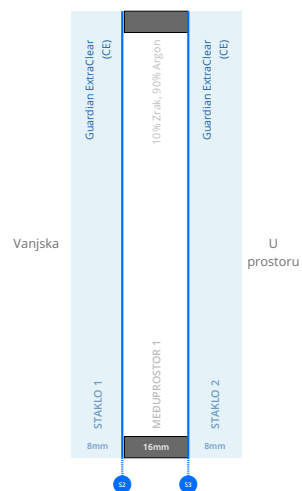
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Ime konfiguracije	Staklo 1 & Premaz	Staklo 2 & Premaz	Staklo 3 & Premaz	Staklo 4 & Premaz	Staklo 5 & Premaz	Nagib ostakljenja	Vidljivo svjetlo			Solarna Energija				Toplinska svojstva	Acoustic Values
							Transmisija	Refleksija		Transmisija	Refleksija	Apsorpcija	Solar Faktor (g%)	U-Vrijednost	RW(C;Ctr)
							Vidljivo (τ_v %)	p_v % vanjska	p_v % unutarnja	Solarna (τ_e %)	p_e % vanjska	Solarna (α_e %)		U_g W/m ² ·K	
	SunGuard® HD Silver Grey 32 (CE) na Guardian ExtraClear (CE)	ClimaGuard® Premium2 (CE) na Guardian ExtraClear (CE)	N/A	N/A	N/A	90	29,1	23,9	23,3	20,3	21,5	58,2	25,4	1,1	35(-1;-4)

Standard kalkulacije: EN 410:2011 / EN 673:2011

8mm ExtraClear SunGuard® HD Silver Grey 32 #2 - 16mm 10% Zrak, 90% Argon - 8mm ExtraClear ClimaGuard® Premium2 #3

Ukupna konfiguracija (nominalno): 32 mm Procijenjena nominalna težina ostakljenja: 38,73 kg/m² Nagib: 90°



Coatings

- S2** SURFACE 2 COATING SunGuard® HD Silver Grey 32 (CE)
- S3** SURFACE 3 COATING ClimaGuard® Premium2 (CE)

Sažeti podaci

Standard kalkulacije: EN 410:2011 / EN 673:2011

Performance Data

VIDLJIVO SVJETLO

Transmisija % (τ_v)	29,1
Refleksija-unutarnja % (ρ_v)	23,3
Refleksija-Vanjska % (ρ_e)	23,9

TOPLINSKA SVOJSTVA

U-Vrijednost (U_g W/m ² ·K)	1,1
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SOLARNA ENERGIJA

Solar Faktor (g%)	25,4
Transmisija %	20,3
Refleksija-vanjska % (ρ_e)	21,5
Apsorpcija % (α_e)	58,2

ACOUSTIC VALUES

RW(C;Ctr)	35(-1;-4)
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Važne bilješke

Izračuni i pojmovi u ovom izvješću temelje se na normi EN 410: 2011 / EN 673: 2011. Gore prikazane vrijednosti performansi predstavljaju nominalne vrijednosti za središte stakla bez sustava međuprostora ili okvira. Faktor sunca (g) i sekundarni prijenos topline (qi) nisu dostupni za koso ostakljenje, jer standard za ove atribute nije propisan metodom izračuna. Logotip KIWA-e i Izvješće o provjeri valjanosti KIWA-a MD-14/477 / GL navedeni su kao dokaz verifikaciju softvera Guardian Performance Calculator, verzija 4.1, za izvršavanje proračuna svjetlosnih i solarnih značajki stakla i propuštanja topline, u skladu s EN 410 : 2011 i EN 673: 2011.

Embodied CO2 [eq. kg/m²] A1-A3 is estimated based on material Embodied Carbon Factor (ECF), derived from Guardian Glass Regional third-party independently verified and published / current Environmental Product Declarations (EPDs) which are produced to EN 15804 and are compliant with the requirements of ISO 14044, the International Life Cycle Assessment (LCA) standard, and ISO 14025 and ISO 21930, the international standards covering EPD for construction products. The A1–A3 ECF is an estimate of the embodied carbon due to production of that material. The resulting material value should then be multiplied by the square area of glazing to provide an estimate of embodied carbon of the material at the project scale. Embodied CO2 estimates provided by Guardian represent only values associated with the glass components manufactured by Guardian. The estimated values do not represent in any way a plant-specific and/or product specific guarantee.

Laminirani proizvodi:

Nije zajamčeno da će modelirane laminirane konfiguracije biti u skladu s relevantnim laminiranim sigurnosnim propisima, osim ako nije izričito navedeno za proizvode tvrtke Guardian. Korisnik je isključivo odgovoran za procjenu treba li konačni laminirani proizvod biti certificiran u skladu s odgovarajućim standardima i osigurati usklađenost s laminiranim sigurnosnim propisima. Dodatne posljedice za slojevito staklo s međuslojem koje je obloženo premazom (zbog kontakta između premaza i međusloja) može uključivati (ne ograničavajući se na): značajno smanjenje sigurnosnih svojstava za neke kombinacije premaza i međuslojeva; gubitak toplinske izolacije izvedbe površine koja je orijentirana prema PVB; primjetna promjena boje; drugo pogoršanje performansi.

Sigurnosna i zaštitna svojstva laminiranih proizvoda certificiranih prema normama EN 356 (otpornost na provalu) i EN 12600 (otpornost na udarce tijela njihala) vrijede isključivo ako laminirane proizvode proizvodi izravno tvrtka Guardian.

Nepregledni proizvodi (prozirni ili difuzni):

Mjerenje performansi za neprozirne (prozirne ili difuzne) materijale, kao što su prozirni međuslojevi ili kiselinski nagrizane staklene površine ili površine s keramičkom nanosom ograničene su trenutnim eksperimentalnim tehnologijama. Budući da mjerenja fizički pokrivaju samo dio dobivenog zračenja, rezultati ovdje izračunatih rezultata rada i na temelju

takvih mjerenja nisu u skladu s bilo kojim standardom (uključujući EN 410) i mogu se koristiti samo kao opća referenca. Stvarne vrijednosti mogu se značajno razlikovati ovisno o točnom procesu izrade, kao i vrsti, debljini i boji upotrijebljenog neperkularnog materijala.
Objašnjenje pojmova prema EN 410: 2011 / EN 673: 2011

Vidljiva propusnost svjetlosti (T_v ,%) je postotak incidentnog osvjetljenja raspona valnih duljina od 380 nm do 780 nm koji se prenosi staklom.

Ultraljubičasta (UV) transmisija (T_{uv} ,%) je postotak prenesene UV komponente sunčevog zračenja u rasponu valnih duljina od 280 nm do 380 nm koji se prenosi staklom.

Izravna transmisija sunčeve energije (T_e ,%) je postotak upaljene sunčeve energije u rasponu valnih duljina od 300 nm do 2500 nm koji se izravno prenosi staklom.

Refleksija vidljive svjetlosti na otvorenom / unutarnjem prostoru ($R_{v \text{ out / in}}$,%) je postotak upadne vidljive svjetlosti koja se izravno reflektira od stakla.

Izravna refleksija sunca na otvorenom / u zatvorenom prostoru ($R_{e \text{ out / in}}$,%) je postotak upale sunčeve energije koja se izravno odražava na staklu.

Sunčeva energija Apsorpcija (A_e ,%) je postotak sunčeve energije koju apsorbira staklo.

U-vrijednost (U_g , W / m² K) je parametar ostakljenja koji karakterizira prijenos topline kroz središnji dio ostakljenja, tj. Bez rubnih učinaka i izražava stacionarnu gustoću prijenosa topline po temperaturnoj razlici između okoline temperature na svakoj strani. Temperaturna razlika prema standardnim uvjetima: $\Delta T = 15K^\circ$. Što je vrijednost manja, veća je izolacijska vrijednost. EN 673 definira vrijednost s 1 decimalnim mjestom. Vrijednost se također daje s 3 decimalna mjesta u informativne svrhe.

Faktor solarne energije ili ukupna solarna energija Propusnost ili g-vrijednost (g %) je ukupno Sunčevo zračenje koje se prenosi staklom.

Koeficijent zasjenjenja (sc) je faktor Sunca podijeljen s 0,87. To je mjera solarnog toplinskog dobitka koji se odnosi na 3 mm prozirno staklo koje ima označenu vrijednost 1,00.

Sekundarni koeficijent prijenosa topline (q_i) rezultat je prijenosa topline konvekcijom i dugovalno IR-zračenjem dijela upadnog sunčevog zračenja koji je apsorbiran staklom.

Indeks prikazivanja boje u prijenosu, D65 (R_a) je promjena boje objekta kao posljedice prijenosa svjetlosti kroz staklo

Disclaimer for Acoustic Performance

Disclaimer: The acoustic performance data provided in the reports is based on a test protocol or an estimation and may be used if user actual glazing is identical to input data described herein as to the date of this report. Acoustic performance data herein is only applicable for glazing dimensions 1,23 m x 1,48 m (as per testing standard). Estimation of acoustic performance is based on component-similarity assumptions which are derived from measured data and interpolation to expand the database of values from test protocols. Due to inherent variations in acoustic performance when testing in accordance with EN ISO 10140-3/EN ISO 10140-2, some variation in the calculated performance can also be expected. As such, the weighted performance, R_w , and adaptation terms, C and C_{tr} , should typically be considered to be accurate within ± 2 dB. However, wider deviations can occur and calculations may vary in the future due to database variations. Actual performance may vary according to the glazing dimensions, frame system, noise sources and many other parameters. The acoustic performance data herein should not be used as a substitute for tests of actual glazing. For more information, please consult Assumptions and Terminology section in Guardian Acoustic Assistant. By accessing this calculator, you agree not to alter or modify the generated report data and information, by any means. Any manual alteration will be your own responsibility and will annul all the content of the report.

Izjava o odricanju

This performance analysis is provided for the limited purpose of assisting the user in evaluating the performance of the glass products identified on this report. Spectral data for products manufactured by Guardian reflect nominal values derived from typical production samples or CE Initial Type Testing and subject to variations due to manufacturing and calculation tolerances. Spectral data for products not manufactured by Guardian were derived from the LBNL International Glazing Database and have not been independently verified by Guardian. Guardian recommends a full-size mock-up be approved. The values provided herein are generated according to established engineering practices and applicable calculation standards. Many factors may affect glazing characteristics, including glass size, building orientation, shading, wind speed, type of installation, production process and others. The applicability and results of the analysis are directly related to user inputs and any changes in actual conditions can have a significant effect on the results.

It is the responsibility of the users of the analysis to ensure that the intended application is appropriate and complies with all relevant laws, regulations, standards, codes of practices, processing guidelines and other requirements. Guardian makes no guarantee that any glazing modeled herein is available from Guardian or any other manufacturer. The user has the responsibility to check with the manufacturer regarding availability of any glass type or make-up.

All the HT/T coatings must undergo heat treatment. The specified values for these coatings are valid only once the heat treatment process has been completed.

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