Safety Film

Technical Data Sheet (TDS)
4 Mil Clear Safety Film

Product Description
4 Mil Clear Safety Film is a high-impact-resistant, micro-layered polyester film engineered to provide enhanced safety and protection for glass surfaces. Once installed, it strengthens glass, reduces glare, and prevents shattering on impact.

Key Applications:

- Automobile windows
- Glass doors and partitions
- Bathroom mirrors
- Elevator finishes
- Other vulnerable glass or hard surfaces

Testing Standards: ASHRAE, ASTM, BSEN 410 & AIMCAL

Features & Benefits

- **High-Impact Resistance:** Prevents glass from splintering on impact.
- **UV Protection:** Blocks >99% of harmful UV rays.
- **Glare Reduction:** Reduces glare by 2% while maintaining high transparency.
- **Durable Adhesion:** Strong bond to glass ensures long-lasting protection.
- **Versatile Application:** Suitable for vehicles, residential, and commercial buildings.

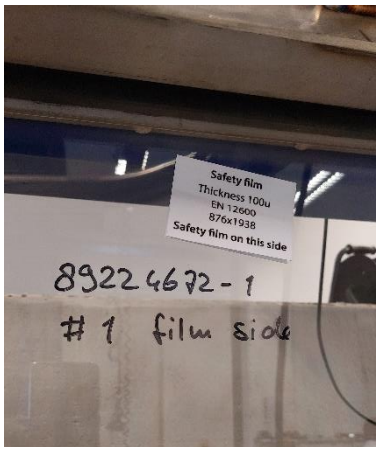
Mechanical Properties

Property	Unit	Nominal Value
Tensile Strength at Break (MD)	Kg/cm^2	1800
Tensile Strength at Break (MD)	PSI	25,600
Break Load (MD)	Kg/cm	19
Elongation at Break (MD)	%	130
Peel Strength (After Curing)	Grams/inch	2500
Abrasion Resistance	100 cycles haze addition	<5%

PRODUCT DETAILS								
4 MIL CLEAR SAFETY FILM	SINGLE PANE CLEAR		SINGLE PANE TINTED		DUAL PANE CLEAR		DUAL PANE TINTED	
	1/4 " CLEAR	4 MIL	1/4 " TINTED	4 MIL	DUAL 1/4 " CLEAR	4 MIL	DUAL 1/4 " TINTED	4 MIL
Solar Heat Gain Coefficient	0.82	0.83	0.67	0.64	0.70	0.71	0.55	0.63
Visible light Transmitted	88	86	55	53	79	77	49	47
Visible light Reflected interior	8	9	7	7	15	15	11	13
Visible light Reflected exterior	8	9	6	8	15	14	8	8
U Value	1.03	1.08	1.03	1.05	0.47	0.47	0.47	0.47
UV Blocking	43	>99	NA	>99	NA	>99	NA	>99
Total Solar Energy Rejected	18	17	33	36	30	29	45	37
Glare reduction	NA	2	NA	5	NA	3	NA	8

Test report no.: *Testrapport nr.:*	**89224672-18**	**Order No.:** *Opdracht nr.:*	89224672 24.A160	
Client Reference No.: *Klantreferentie nr.:*	-	**Order date:** *Opdrachtdatum:*	2024-07-22	
Client: *Klant:*	Garware Hi Tech Films Limited Naigaon, P.O. Waluj, Aurangabad – 431 133, Maharashtra, India.			
Test item: *Testvoorwerp:*	4mm Glass+ 4mil Safety Film			
Identification/ Type No.: *Benaming / Type nr.:*	4mm Glass+ 4mil Safety Film			
Order content: *Inhoud opdracht:*	Samples for testing against EN 12600, as given in the standard			
Test specification: *Testomschrijving:*	EN 12600:2002[a] Impact test method and classification for flat glass *Laminated safety glass*			

Date of sample receipt: *Ontvangstdatum monster:*	2024-08-01
Test sample No: *Testproefstuk nr.:*	89224672-01/04
Testing period: *Testperiode:*	2024-11-26 - 2024-11-26
Place of testing: *Testlocatie:*	Arnhem, the Netherlands
Testing laboratory: *Testlaboratorium:*	TÜV Rheinland Nederland B.V. (NoBo 0336)
Test result*: *Testresultaat*:*	Pass



tested by: *getest door:* **Date:** 2025-01-21 *Datum:*	X Ondertekend door: Salah El Bardai	**authorized by:** *geautoriseerd door:* **Issue Date:** 2025-01-21 *Datum uitgave:*	X Signed by: Sef Hovens
Position / *functie*:	Expert	**Position** / *functie*:	Expert

Others /
Andere:

Condition of the test item at delivery:
Toestand van het test voorwerp bij ontvangst: Test item complete and undamaged

* Legend:	P(ass) = passed a.m. test specification(s)	F(ail) = failed a.m. test specification(s)	N/A = not applicable	N/T = not tested
** Legenda:*	*P(ass) = voldoet aan test omschrijving*	*F(ail) = voldoet niet aan test omschrijving*	*N/A = niet van toepassing*	*N/T = niet getest*

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V05

Remarks
Opmerkingen

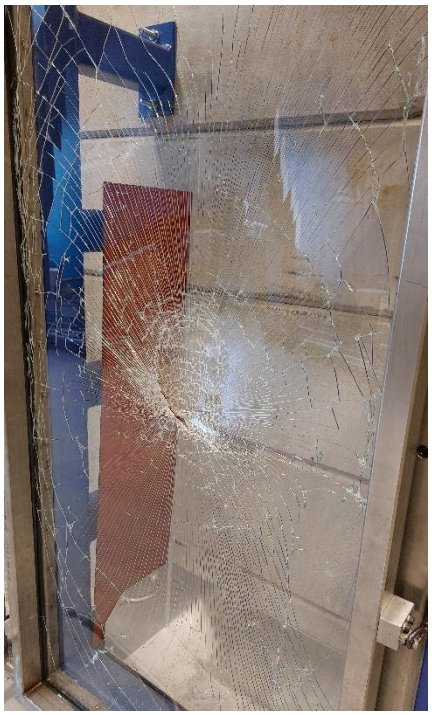
1	The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system. Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request. For the influence of the measuring uncertainties on the results, reference is made to the validation of the respective methods. *De apparatuur welke tijdens de gespecificeerde testperiode is gebruikt, is gekalibreerd volgens ons kalibratieprogramma. De apparatuur voldoet aan de eisen welke zijn opgenomen in de relevante normen. De traceerbaarheid van de gebruikte testapparatuurs is gewaarborgd door naleving van de voorschriften in ons kwaliteitsmanagementsysteem. Gedetailleerde informatie over testomstandigheden, apparatuur en meetonzekerheid is beschikbaar in het testlaboratorium en kan op verzoek worden verstrekt. Voor de invloed van de meetonzekerheden op de resultaten wordt verwezen naar de validatie van de respectievelijke methode c.q. verrichting*
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3	Test clauses with remark of * are subcontracted to qualified subcontractors and descripted under the respective test clause in the report. Tests clauses marked with [a] are performed under ISO 17025 accreditation. Deviations of testing specification(s), test locations or customer requirements are listed in specific test clause in the report. This report is only to be read is a whole. No opinions or interpretation are included in this report. This test report consists of multiple pages and is only to be read is a whole. The number of pages can be seen in the header on the top right of each page, the report ends when the last page is reached. TÜV Rheinland Nederland B.V. is solely responsible for the content. *Test onderdelen welke met * zijn gemarkeerd zijn uitbesteed aan gekwalificeerde onderaannemers en zijn beschreven in het respectievelijke test onderdeel van dit rapport. Test onderdelen welke met [a] zijn gemarkeerd zijn onder ISO 17025 accreditatie uitgevoerd. Afwijkingen van testspecificatie(s), testlocaties of klant eisen zijn vermeld in het van toepassing zijnde onderdeel in het rapport. Het rapport dient als geheel te worden gelezen. Er zijn geen opinies en interpretaties opgenomen binnen het rapport. Dit rapport bestaat uit meerdere pagina's en dient al geheel gelezen te worden. Het aantal pagina's is rechtsboven in de koptekst van dit rapport vermeld en eindigt wanneer de laatste pagina is bereikt. TÜV Rheinland Nederland is als enige verantwoordelijk voor de inhoud van het rapport.*
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Test report no.: 89224672-18
Testrapport nr.:

Product description
Product omschrijving

1	**Product details:** *Product details:*	Name of the manufacturer : Garware Hi Tech Films Limited Address of the manufacturer : Naigaon, P.O. Waluj, Aurangabad – 431 133, Maharashtra, India. Production plant of the samples : - Line ID where the samples are made : - Production date : - Sampling date : - The product was marked as : 4 mm Glass + 4mil Safety Film Kind of glass : Clear float glass Nominal thickness : 4 mm Composition : 4 mm float + 4mil Safety Film Intermediate layer, name, type : 4 mil Safety Film
2	**Other:** *Andere:*	Test sample(s), as well sample information, description, product details and intended usage was provided by customer.
3	**Test sample obtaining:** *Selectie van het proefstuk:*	☒ Sending by customer ☐ Sampling by TÜV Rheinland Group ☐ others:

Product description
Product omschrijving

Picture 1. Sample 1 After impact	Picture 2. Sample 2 After impact
	

Test method
Test methode

EN 12600:2002[a]	**Impact test method and classification for flat glass**	
Scope:	EN 12600 specifies a pendulum impact test method for single flat glass for use in buildings. The test is intended to classify flat glass products in three principal classes by performance under impact and by mode of breakage. The standard does not specify requirements for applications, nor does it specify requirements for durability.	
Test requirements of clause 4 :	When tested by the method given in clause 5 of the standard, each test piece shall either not break or shall break as defined in one of the following ways : a) Numerous cracks appear, but no shear or opening is allowed within the test piece through which a 76mm diameter sphere can pass when a maximum force of 25 N is applied. Additionally, if particles are detached from the test piece up to 3 minutes after impact, they shall - in total – weigh no more than a mass equivalent to 10.000 mm² of the original test piece. The largest single particle shall weigh less than the mass equivalent to 4.400 mm² of the original test piece; b) Disintegration occurs and the 10 largest crack-free particles collected within 3 minutes after impact and weighed, all together, within 5 minutes of impact shall weigh no more than the mass equivalent to 6.500 mm² of the original test piece. The particles shall be selected only from the portion of the original test piece exposed in the test frame. Only the exposed area of any particle retained in the test frame shall be taken into account in determining the mass equivalent.	Applicable clause : (a) ☒ (b) ☐
Test method:	The test temperature shall be (20 ± 5) °C. **Clause 5.** Each test piece shall comprise a single pane of glass product and be representative of the normal production of the type of product submitted for test. Results obtained with test pieces of dimensions (876 ± 2) x (1938 ± 2) mm are valid for classification purposes of the glass product, whatever the service dimensions. The test shall be carried out at each drop height on four pieces of identical structure and the same nominal thickness. In case of symmetrical samples, the classification obtained can be used for both sides of the product. For asymmetrical samples, the classification obtained, are intended solely for installation in situations where the risk of impact is from one side only. Inspect the test piece after impact and note whether ; - It remains unbroken; or - It broke in accordance with either the requirements a) or b) of clause 4; or - It broke and failed to conform to the requirements of clause 4. If any of the initial four test pieces fails to conform to the requirements of clause 4, the procedure is terminated. If all four test pieces either do not break or else break according to the criteria given in clause 4, and it is required to test the material to a higher impact level, increase the drop height to the next impact level. Repeat the test on four more samples of the same material (If the material remained unbroken, the same sample(s) may be used.)	

Test method
Test methode

	Impact levels	
	Classification	Drop height (mm)
	3	190
	2	450
	1	1200
Measuring uncertainty:	Caused by the destructive nature of the test and pass/fail result no measurement uncertainty can be determined. Based on the validation of the test procedure, measurement set-up and the associated parts (test frame / drop height, etc.) there is a presumption of conformity established which is approved with ISO 17025 accreditation.	
Sphere penetration test :	The probe assembly shall consist of a sphere of diameter (76 ± 1) mm connected to an arm with a device for measuring when a maximum force of 25 N has been applied. The probe assembly shall be held horizontal. It shall then be pushed in any opening formed in the test piece. The weakest point of resistance shall be selected. A horizontal force shall be applied until : - A maximum force of 25 N has been achieved without penetration by the sphere. The test piece shall be deemed to have passed the test; or - The maximum diameter of the sphere has passed through the plan of the test piece without a force of 25 N being achieved. The test piece shall be deemed to have failed the test.	
Classification :	**General** Glazing conforming to this European standard is classified as follows : - Its performance under the impact test; - The drop height at which breakage occurred; - The drop height at which the product passed in accordance with a) of clause 4; - The drop height at which the product passed in accordance with b) of clause 4; - The mode of breakage of the material if it remains unbroken after the impact test.	
	Drop height class Glazing shall be classified as follows : - Class 3: material that conforms the requirements of clause 4 when tested by the method given in clause 5 at a drop height of 190 mm; - Class 2: material that conforms the requirements of clause 4 when tested by the method given in clause 5 at a drop height of 190 mm and 450 mm; - Class 1: material that conforms the requirements of clause 4 when tested by the method given in clause 5 at a drop height of 190 mm 450 mm and 1200 mm.	

Test method
Test methode

Mode of breakage

If all test pieces remain unbroken at the drop height appropriate to its intended drop height class, the mode of breakage shall be determined as per Annex C of this standard. The mode of breakage shall be described as follows :

- Type A : numerous cracks appear forming separate fragments with sharp edges, some of which are large (typical of annealed glass);
- Type B : numerous cracks appear, but the fragments hold together and do not separate (typical of laminated glass);
- Type C : disintegration occurs, leading to a large number of small particles that are relatively harmless (typical of toughened glass).

Performance classification

The performance classification of a glass product shall be given as follows :

α (β) ϕ , where

- α : is the highest drop height class at which the product either did not break or broke in accordance with a) or b) of clause 4;
- β : is the mode of breakage;
- ϕ : is the highest drop height class at which the product either did not break or when broke, broke in accordance with a) clause.

When a glass product breaks at a drop height of 190 mm and the breakage is not in accordance with a) of clause 4 then the value of ϕ quoted shall be zero.

Test results
Test resultaten

Expression of test results				
Performance under impact test	**Composition (from the attack side) : 4mil Safety Film+ 4mm Glass**			
	Sample number			
	89224672 #1	89224672 #2	89224672 #3	89224672 #4
Asymmetrical yes/no	Yes			
Attack face?	Foil side			
Dimensions	876 x 1938 mm			
Nominal thickness	4 mm			
Tyre pressure (0,35 ± 0,02) MPa ? yes/no	yes			
In case of applied films, film clamped in frame ? yes/no	n.a.			
Behaviour at each drop height	- did the test piece broke or not - if broken, the mode of breakage - was it broken in accordance with clause 4, a) or b)			
Class 2 (drop height 450mm)	Breakage, A / **B** / C Clause a)	Breakage, A / **B** / C Clause a)	No Breakage	No Breakage

Based on EN 12600:2002 [a], Clause 6

Glazing conforming to this European Standard is classified by the performance of four consecutive samples under impact.

Trade name : **4mm Glass + 4mil Safety Film**
Composition : **4mil Safety Film+ 4mm Glass**
Classification EN 12600 : **2 (B) 2 Foil side**

Pass ☒
Fail ☐
Not applicable ☐

Remarks

The test results exclusively relate to the tested objects.

When and if changes are made in production method and/or equipment, assessment according to this standard shall be reconsidered and re-tests shall be performed when the changes can lead to different specifications of the glass. The decision and responsibility lies at the manufacturer.

If no reference of the product description was supplied by the manufacturer, than that document shall be added to this test report by the manufacturer. It was to the manufacturer's responsibility that the samples delivered for initial type test are representative to the production and deviations from perfection were included in the delivered test samples.

- End of report -

Test Report – Products
Testrapport - Producten

Test report no.: *Testrapport nr.:*	**89224672-17**	**Order No.:** *Opdracht nr.:*	89224672 24.A160	
Client Reference No.: *Klantreferentie nr.:*	-	**Order date:** *Opdrachtdatum:*	2024-07-22	
Client: *Klant:*	Garware Hi Tech Films Limited Naigaon, P.O. Waluj, Aurangabad – 431 133, Maharashtra, India.			
Test item: *Testvoorwerp:*	4mm Glass+ 4mil Safety Film			
Identification/ Type No.: *Benaming / Type nr.:*	4mm Glass+ 4mil Safety Film			
Order content: *Inhoud opdracht:*	Samples for testing against EN 12600, as given in the standard			
Test specification: *Testomschrijving:*	EN 12600:2002[a] Impact test method and classification for flat glass *Laminated safety glass*			

Date of sample receipt: *Ontvangstdatum monster:*	2024-08-01
Test sample No: *Testproefstuk nr.:*	89224672-01/04
Testing period: *Testperiode:*	2024-11-26 - 2024-11-26
Place of testing: *Testlocatie:*	Arnhem, the Netherlands
Testing laboratory: *Testlaboratorium:*	TÜV Rheinland Nederland B.V. (NoBo 0336)
Test result*: *Testresultaat*:*	Pass



tested by: *getest door:*	X Ondertekend door: Salah El Bardai	**authorized by:** *geautoriseerd door:*	X Signed by: Sef Hovens
Date: 2025-01-21 *Datum:*		**Issue Date:** 2025-01-21 *Datum uitgave:*	
Position / *functie*:	Expert	**Position** / *functie*:	Expert

Others /
Andere:

Condition of the test item at delivery:
Toestand van het test voorwerp bij ontvangst: Test item complete and undamaged

* Legend:	P(ass) = passed a.m. test specification(s)	F(ail) = failed a.m. test specification(s)	N/A = not applicable	N/T = not tested
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VO5

Test report no.: 89224672-17
Testrapport nr.:

Remarks
Opmerkingen

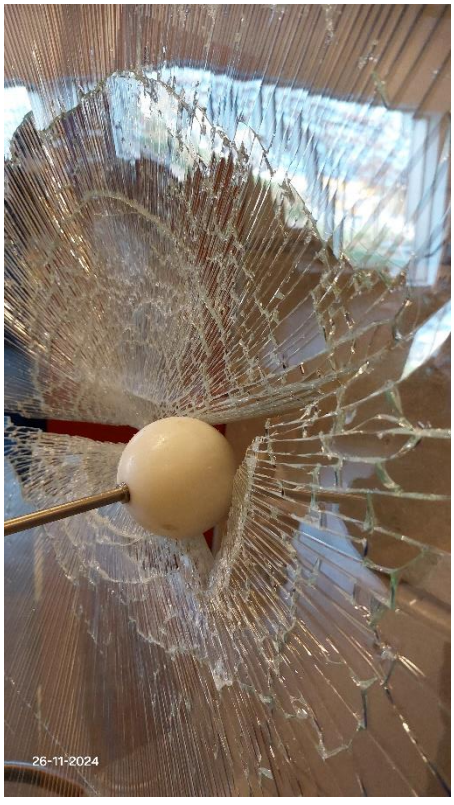
1	The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system. Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request. For the influence of the measuring uncertainties on the results, reference is made to the validation of the respective methods. *De apparatuur welke tijdens de gespecificeerde testperiode is gebruikt, is gekalibreerd volgens ons kalibratieprogramma. De apparatuur voldoet aan de eisen welke zijn opgenomen in de relevante normen. De traceerbaarheid van de gebruikte testapparatuurs is gewaarborgd door naleving van de voorschriften in ons kwaliteitsmanagementsysteem. Gedetailleerde informatie over testomstandigheden, apparatuur en meetonzekerheid is beschikbaar in het testlaboratorium en kan op verzoek worden verstrekt. Voor de invloed van de meetonzekerheden op de resultaten wordt verwezen naar de validatie van de respectievelijke methode c.q. verrichting*
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Test report no.: 89224672-17
Testrapport nr.:

Product description
Product omschrijving

1	**Product details:** *Product details:*	Name of the manufacturer : Garware Hi Tech Films Limited Address of the manufacturer : Naigaon, P.O. Waluj, Aurangabad – 431 133, Maharashtra, India. Production plant of the samples : - Line ID where the samples are made : - Production date : - Sampling date : - The product was marked as : 4 mm Glass + 4mil Safety Film Kind of glass : Clear float glass Nominal thickness : 4 mm Composition : 4 mm float + 4mil Safety Film Intermediate layer, name, type : 4 mil Safety Film
2	**Other:** *Andere:*	Test sample(s), as well sample information, description, product details and intended usage was provided by customer.
3	**Test sample obtaining:** *Selectie van het proefstuk:*	☒ Sending by customer ☐ Sampling by TÜV Rheinland Group ☐ others:

Product description
Product omschrijving

Picture 1. Sample 1 After impact	Picture 2. Sample 2 After impact
	
Picture 1. Sample 3 After impact	**Picture 2. Sample 4 After impact**
	

Test method
Test methode

EN 12600:2002[a]	**Impact test method and classification for flat glass**	
Scope:	EN 12600 specifies a pendulum impact test method for single flat glass for use in buildings. The test is intended to classify flat glass products in three principal classes by performance under impact and by mode of breakage. The standard does not specify requirements for applications, nor does it specify requirements for durability.	
Test requirements of clause 4 :	When tested by the method given in clause 5 of the standard, each test piece shall either not break or shall break as defined in one of the following ways : a) Numerous cracks appear, but no shear or opening is allowed within the test piece through which a 76mm diameter sphere can pass when a maximum force of 25 N is applied. Additionally, if particles are detached from the test piece up to 3 minutes after impact, they shall - in total – weigh no more than a mass equivalent to 10.000 mm² of the original test piece. The largest single particle shall weigh less than the mass equivalent to 4.400 mm² of the original test piece; b) Disintegration occurs and the 10 largest crack-free particles collected within 3 minutes after impact and weighed, all together, within 5 minutes of impact shall weigh no more than the mass equivalent to 6.500 mm² of the original test piece. The particles shall be selected only from the portion of the original test piece exposed in the test frame. Only the exposed area of any particle retained in the test frame shall be taken into account in determining the mass equivalent.	Applicable clause : (a) ☒ (b) ☐
Test method:	The test temperature shall be (20 ± 5) °C. **Clause 5.** Each test piece shall comprise a single pane of glass product and be representative of the normal production of the type of product submitted for test. Results obtained with test pieces of dimensions (876 ± 2) x (1938 ± 2) mm are valid for classification purposes of the glass product, whatever the service dimensions. The test shall be carried out at each drop height on four pieces of identical structure and the same nominal thickness. In case of symmetrical samples, the classification obtained can be used for both sides of the product. For asymmetrical samples, the classification obtained, are intended solely for installation in situations where the risk of impact is from one side only. Inspect the test piece after impact and note whether ; - It remains unbroken; or - It broke in accordance with either the requirements a) or b) of clause 4; or - It broke and failed to conform to the requirements of clause 4. If any of the initial four test pieces fails to conform to the requirements of clause 4, the procedure is terminated. If all four test pieces either do not break or else break according to the criteria given in clause 4, and it is required to test the material to a higher impact level, increase the drop height to the next impact level. Repeat the test on four more samples of the same material (If the material remained unbroken, the same sample(s) may be used.)	

Test method
Test methode

	Impact levels	
	Classification	Drop height (mm)
	3	190
	2	450
	1	1200

Measuring uncertainty:	Caused by the destructive nature of the test and pass/fail result no measurement uncertainty can be determined. Based on the validation of the test procedure, measurement set-up and the associated parts (test frame / drop height, etc.) there is a presumption of conformity established which is approved with ISO 17025 accreditation.
Sphere penetration test :	The probe assembly shall consist of a sphere of diameter (76 ± 1) mm connected to an arm with a device for measuring when a maximum force of 25 N has been applied. The probe assembly shall be held horizontal. It shall then be pushed in any opening formed in the test piece. The weakest point of resistance shall be selected. A horizontal force shall be applied until : - A maximum force of 25 N has been achieved without penetration by the sphere. The test piece shall be deemed to have passed the test; or - The maximum diameter of the sphere has passed through the plan of the test piece without a force of 25 N being achieved. The test piece shall be deemed to have failed the test.
Classification :	**General** Glazing conforming to this European standard is classified as follows : - Its performance under the impact test; - The drop height at which breakage occurred; - The drop height at which the product passed in accordance with a) of clause 4; - The drop height at which the product passed in accordance with b) of clause 4; - The mode of breakage of the material if it remains unbroken after the impact test.
	Drop height class Glazing shall be classified as follows : - Class 3: material that conforms the requirements of clause 4 when tested by the method given in clause 5 at a drop height of 190 mm; - Class 2: material that conforms the requirements of clause 4 when tested by the method given in clause 5 at a drop height of 190 mm and 450 mm; - Class 1: material that conforms the requirements of clause 4 when tested by the method given in clause 5 at a drop height of 190 mm 450 mm and 1200 mm.

Test method
Test methode

Mode of breakage

If all test pieces remain unbroken at the drop height appropriate to its intended drop height class, the mode of breakage shall be determined as per Annex C of this standard. The mode of breakage shall be described as follows :

- Type A : numerous cracks appear forming separate fragments with sharp edges, some of which are large (typical of annealed glass);
- Type B : numerous cracks appear, but the fragments hold together and do not separate (typical of laminated glass);
- Type C : disintegration occurs, leading to a large number of small particles that are relatively harmless (typical of toughened glass).

Performance classification

The performance classification of a glass product shall be given as follows :

α (β) ϕ , where

- α : is the highest drop height class at which the product either did not break or broke in accordance with a) or b) of clause 4;
- β : is the mode of breakage;
- ϕ : is the highest drop height class at which the product either did not break or when broke, broke in accordance with a) clause.

When a glass product breaks at a drop height of 190 mm and the breakage is not in accordance with a) of clause 4 then the value of ϕ quoted shall be zero.

Test results
Test resultaten

Expression of test results				
Performance under impact test	**Composition (from the attack side) : 4mm Glass + 4mil Safety Film**			
	Sample number			
	89224672 #1	89224672 #2	89224672 #3	89224672 #4
Asymmetrical yes/no	Yes			
Attack face?	Glass side			
Dimensions	876 x 1938 mm			
Nominal thickness	4 mm			
Tyre pressure (0,35 ± 0,02) MPa ? yes/no	yes			
In case of applied films, film clamped in frame ? yes/no	n.a.			
Behaviour at each drop height	- did the test piece broke or not - if broken, the mode of breakage - was it broken in accordance with clause 4, a) or b)			
Class 2 (drop height 450mm)	No Breakage	Breakage, A / **B** / C Clause a)	Breakage, A / **B** / C Clause a)	Breakage, A / **B** / C Clause a)

Based on EN 12600:2002 [a], Clause 6

Glazing conforming to this European Standard is classified by the performance of four consecutive samples under impact.

Trade name	**: 4mm Glass + 4mil Safety Film**	Pass ☒
Composition	**: 4mm Glass + 4mil Safety Film**	Fail ☐
Classification EN 12600	**: 2 (B) 2 Glass side**	Not applicable ☐

Remarks

The test results exclusively relate to the tested objects.

When and if changes are made in production method and/or equipment, assessment according to this standard shall be reconsidered and re-tests shall be performed when the changes can lead to different specifications of the glass. The decision and responsibility lies at the manufacturer.

If no reference of the product description was supplied by the manufacturer, than that document shall be added to this test report by the manufacturer. It was to the manufacturer's responsibility that the samples delivered for initial type test are representative to the production and deviations from perfection were included in the delivered test samples.

- End of report -