



Hamm

**REPLACE THE SCREEN.
NOT THE DRIVER.**

PROTECTION by  Hammerglas



THIS IS WHY WE DO IT.

AT THE END OF THE DAY...

Hammerglass' collected knowledge and high-performance safety screens make a difference worldwide. Truly safe customers with no expensive standstills due to broken glass are happy customers. And that creates good vibes for the industry. And as we use to say;
At the end of the day, we are all about you getting home safe after work!

"Seven months after installation the front screen looks as good as new, despite that it is grid free. This is a big change for me."
ALFREDO, MACHINE OPERATOR, PALISSANDRO MARBLE QUARRY, ITALY

Thanks for the screen!

"Nothing is more important than your own life and health. With Hammerglass I feel completely safe."

STEFAN, MACHINE OWNER AND OPERATOR, SWEDEN

***"A safe operator is an effective op
We rate Hammerglass products hi***

MARIUS, PRODUCT MANAGER, PON EQUIPMENT, NORWAY

***"Our machines deserve the best equipment.
It has to be top notch."***

TRULS, CEO, MENZI MUCK SCANDINAVIA

LIFESAVER!

"I survived a serious accident due to the fact that my employer made the right safety choice for me and my work environment."

JÖRGEN, MACHINE OPERATOR, SCANDINAVIAN STONE, SWEDEN

WHERE:

SCANDINAVIAN
STONE, GRANITE
QUARRY IN VÅNGA,
SWEDEN, FEBRUARY
2022.

WHAT:

10 TON BOULDER
FALLS ON TO THE
MACHINE CAB AND
FRONT SCREEN.

MACHINE:

VOLVO.

HAMMERGLASS
PROTECTION:

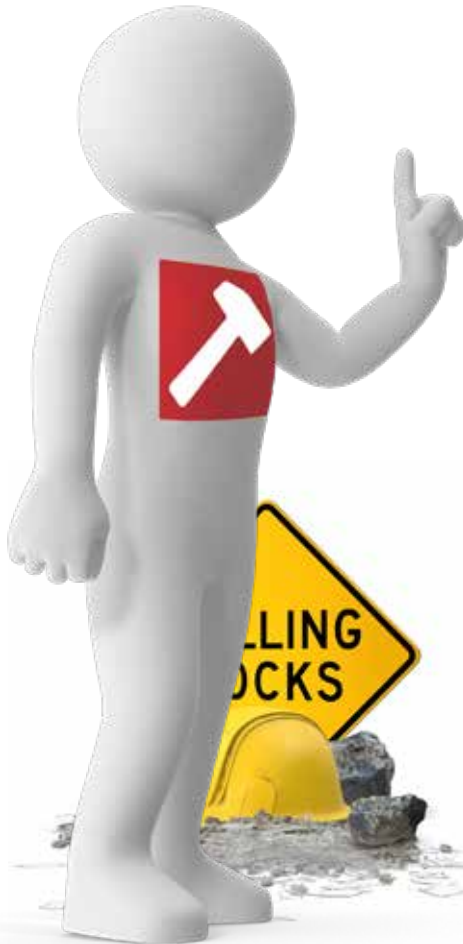
HAMMERGLASS RABS.



erator.
ghly."

*"If I had a different front screen,
I probably would not be
standing here today."*

WHAT'S IN IT FOR ME?



YOU STAY ALIVE.

It might sound dramatic, but we do make a difference.

By choosing Hammerglass you are providing yourself and your crew one of the best protections possible.

YOU AVOID DOWNTIME.

We help you avoid unplanned maintenance and standstills.

These can cost you a fortune no matter if you are owning or leasing your machine. With Hammerglass you can plan maintenance and eventual replacements are made fast.

YOU GET TESTED QUALITY.

Our products are rigorously tested and certified.

We put a lot of pride into only selling products that we know offer the appropriate protection. A protection that you can trust and that you know is quality-labeled.

YOU DON'T NEED A GRID.

We make the grid obsolete – even in heavy-duty cases.

With several of Hammerglass solutions you no longer have to make the operator work behind bars. We fulfill the same standards as a grid without impairing the visibility or the safety.

SAFETY AMBASSADORS SINCE 2009.

It's quite a story! Hammerglass' mission for better operator safety within the construction business started already in 2009 with polycarbonate safety screens. The year after, a new regulation was adopted by the Swedish Work Environment Authority, to clarify the directives from the European Parliament regulating drilling and blasting in construction, quarries and mines.

The regulation requires that actions shall be taken so that those who work on the maneuvering area for rock drilling units, and those who operate hydraulic hammers and are machine loading blasted rock, must be protected against explosions, stone throwing and falling stone.

Inquiries for a polycarbonate front protection soon appeared from the market. Hammerglass contacted The Swedish association of rock blasting contractors (BEF), Sweden's rock materials industry (SBMI), The Swedish Work Environment Authority, The Swedish test institute SP and the Swedish contractor Skanska to set up a technical specification for the required protection. The conclusion was that the protection should secure the operator from the pressure wave, stones and other sharp objects thrown from the explosion.

It should also have optical qualities and the same wear and tear qualities as required for the windscreen of a road driven vehicle. A series of EN, ISO test standards and UN-ECE directives were chosen and performed to prove the protections qualities. The name of the protection was chosen as an acronym of the collection of standards, as RABS stands for: R43, Axe, Blast and Stone.

In 2013 the first Hammerglass RABS-frame protection was mounted on a Volvo excavator. The protection has shown to be of vital importance in reported accidents since then.



ASSESS YOUR RISKS.

THE RIGHT PROTECTION.

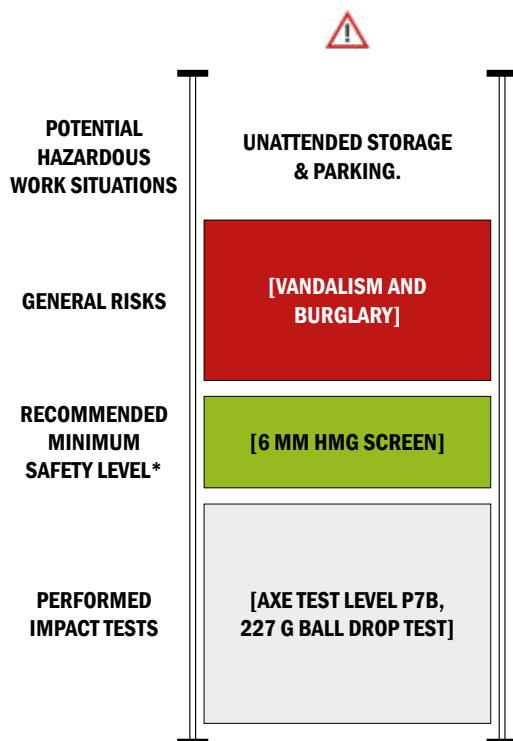
Hammerglass provides the right protection to an operator working in a environment with risk of glass breakage.

So if your risk assessment shows that there are risks – use Hammerglass. Which kind of Hammerglass solution depends on the level of danger. But you don't need security screens everywhere. Hammerglass is not the optimal solution for every machine in every work situation, but as soon as there is a slight risk of glass breakage, Hammerglass is the number one choice.

ARE YOU THE BOSS?

As you are probably aware of, the manager of a business is responsible for the health and safety of its workers.

This means that the employer has a duty to ensure that the operators of the machines have the best possible protection and a security level that matches the performed risk-assessment. This also applies to the enlistment of competent external services.





LOADING & HANDLING, ROAD
BUILD, CONSTRUCTION.

[SMALL THROWN OR
FALLING OBJECTS]

[6 MM HMG SCREEN]

[AXE TEST LEVEL P7B,
227 G BALL DROP TEST]



LOADING & HANDLING, ROAD
BUILD, CONSTRUCTION.

[MEDIUM THROWN OR
FALLING OBJECTS]

[8 MM HMG SCREEN]

[AXE TEST LEVEL P8B,
THE STONE TEST 400 KM/H]



LOADING & HANDLING, ROAD
BUILD, CONSTRUCTION,
HYDRAULIC HAMMERING.

[MEDIUM THROWN OR
FALLING OBJECTS]

[12 MM HMG SCREEN]

[AXE TEST LEVEL P8B,
THE STONE TEST 450 KM/H]



LOADING & HANDLING, ROAD
BUILD, CONSTRUCTION,
HYDRAULIC HAMMERING.

[LARGE THROWN OR
FALLING OBJECTS,
ROCKSLIDE, DETONATION
FROM HIDDEN EXPLOSIVES]

[HMG FRONT GUARD]

[FOPS OR OPG LEVEL II,
BLAST, AXE TEST LEVEL P8B,
THE STONE TEST 450 KM/H,
BALLISTIC TEST BR1-NS]

* The proposed Hammerglass product in the table is a general recommendation. The suitable choice of product shall meet the requirements of the risk assessment.

TESTED & CERTIFIED.

EXPLOSION SAFETY. FOR REAL.

If a machine accidentally triggers an explosion, the pressure wave creates an initial push-effect that wants to push the screen into the cab, followed by a strong suction-effect. This puts the frame and all attachments to an extreme test.

This is the reason why Hammerglass OPG solution is tested in a cab-like fixture and evaluated according to the blast test standard adopted for glazing solutions.



**READ THE
WHOLE
STORY**

– The safety standards for operator guards require that a protection is tested against a measurable force and marked with the International Standards and safety levels that the protection meets. Which is also the reason why we label our guards with these standards. We do this so that machine operators, safety representatives and employers can more easily know that the measures taken meet the existing directives and legal requirements, says Malin Pålsson, Senior Design and Compliance Engineer at Hammerglass.

For your own sake. Always ask to see approved documentation from those that you buy your safety screens from. A protective screen for hazardous environments should always be approved for explosion, OPG/FOPS level II and R43. Remember, the pressure wave from an explosion might not be the only nor the biggest problem. Propelling rocks and debris can break windows that are explosion-tested but not OPG-tested.

CERTIFIED.

Hammerglass AB is certified in accordance with ISO 9001:2015, ISO 14001:2015, ISO 45001:2018.

Our structural engineering department will be at OEM's disposal providing its expertise.

TESTED.

Just to give you a clue of what we put our products through in order to assure quality and resistance, here are a few of the tests performed.

R43: (UN ECE REGULATION NO.43, XIII)

A series of tests for vehicle glass for scratch resistance, UV light, chemicals, humidity, fire, optical distortions, double imaging etc.

AXE: (EN 356, P8B)

70 strikes from a machine mounted axe.

BLAST: (EN 13123-2, EN 13124-2, EXR 2)

3 kg explosives detonated from 3m.

STONE: (EN 15152 clause 6.1)

1 kg metal bullet shot in 450 km/h from 1 m.

OPG/FOPS: (ISO 10262/ISO 3449 level II)

227 kg steel cylinder dropped from 5.2 m.

WATCH SOME OF OUR EYE-POPPING TEST VIDEOS:



SCAN TO
WATCH OUR
VIDEOS



WHAT'S WHAT?



OLD VS MODERN.

**Would you look at a new computer and say:
“I know how computers work, I’ve had one in the 90’s!”?**

Probably not. Just as the development of computers have accelerated over the years, so has professional polycarbonate. Polycarbonate of today is not Polycarbonate of yesterday.


The material has improved immensely and alongside this, Hammerglass has applied its unique hard-coating which improves the material further. Yes, Polycarbonate is still softer than glass, otherwise it would not provide the sought after protection, but issues from the past, such as easily scratched, yellowing, milkiness does not apply to Hammerglass.

You can still find low-quality, uncoated Polycarbonate, but that is a completely different product than Hammerglass. Kind of like 90’s computer compared to the newest laptop.



GET YOUR FACTS STRAIGHT.

Product knowledge alongside a thorough risk assessment are the keys to being able to make a good choice when it comes to driver protection.

	 hammerglass®	GLASS	BASIC POLYCARBONATE
BREAK-RESISTANCE	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
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UV-RESISTANCE	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
SCRATCH-RESISTANCE	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
RESISTANCE AGAINST CHEMICALS	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
OPTICAL CLARITY	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>



PRODUCTS & SOLUTIONS.

THE PORTFOLIO.

We have security solutions for most environments and will easily help you out with the right solution for your machine.

Visit our webshop to see the full portfolio and what's available for your machine. Basically you can split up our safety screen portfolio in to three different segments.

1. Screens & windows

It looks just like a glass screen and is installed in the same way, but it is made of Hammerglass. Can be fitted anywhere in the cab where a glass screen is fitted today.

2. Front Guards

Also known as the RABS-frame. An OPG-tested solution for environments with risks of glass breakage, rock falls, explosions etc. This is as safe as it gets.

3. Custom Made solutions

Custom Made solutions for special applications.

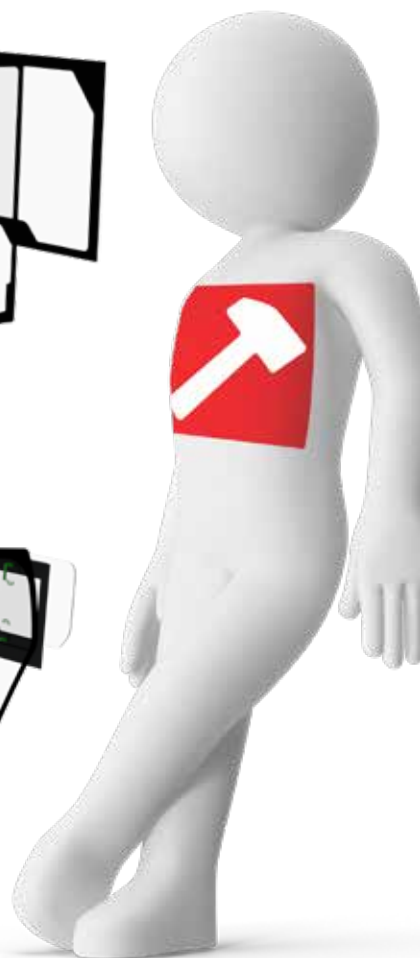
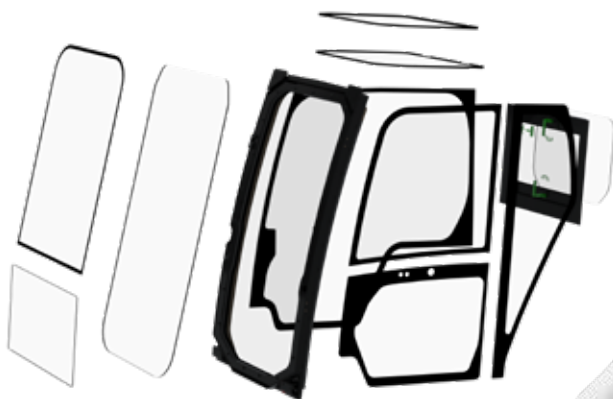
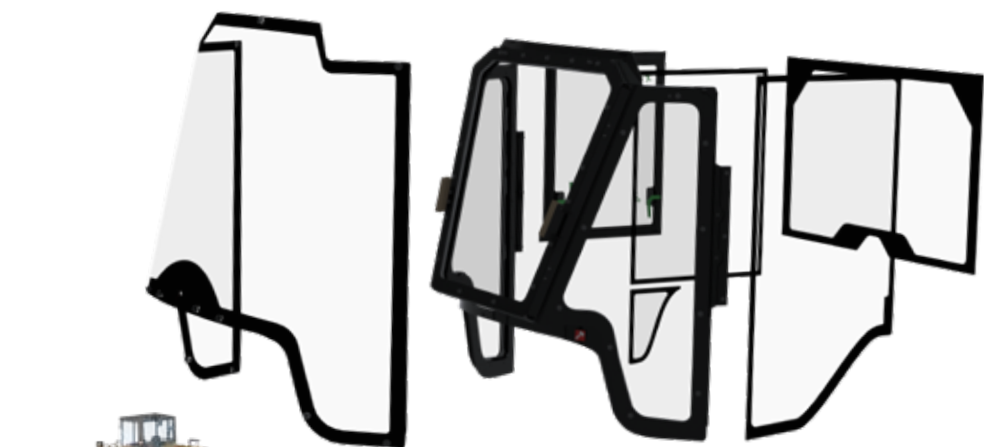
None of the Hammerglass solutions mentioned above will affect the original framework of the machine and will therefore be easily installed on most vehicles.

LONG-TERM PARTNERSHIPS.

For over 15 years we have partnered up with many of the biggest brands within the industry and in several cases we provide security glazing at the OEM-level.

Here are a few of the brands that we provide solutions to:

**VOLVO • CAT • JCB • ENERGREEN • KOBELCO • HYUNDAI • KOMATSU • DEVELON
LIEBHERR • SENNEBOGEN • MENZI MUCK • TOYOTA MATERIAL HANDLING**



ADD-ONS & EXTRAS.

NOT JUST SAFE.

Why settle with less? With Hammerglass you can have more than just a premium safety solution.

With the many add-ons you can bring even more upsides to the operator's environment.

ScreenSaver Screen.

A sacrificial screen mounted in the OPG-frame which acts as a first line of defense towards external damage.

ScreenSaver Film.

A self-healing protection film which adds an extra layer of protection against wear and tear.

HMG IR.

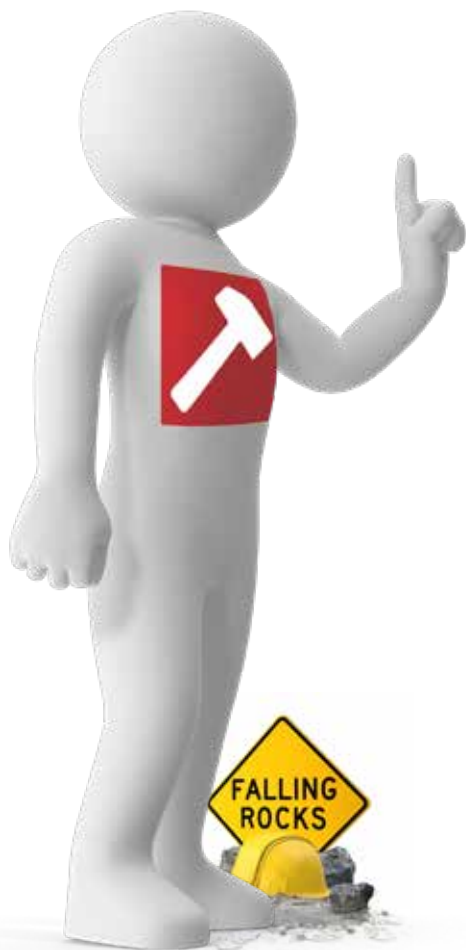
The solution for machines operating in warm conditions. The screen removes 45-55% of the incoming solar radiation.

HMG Bulletproof.

For machines with special needs that has to perform under extreme conditions.

HMG Shapeshifter.

We can make almost every possible shape and bend out of Hammerglass.



REACH OUT.

MADE IN SWEDEN.

BUILT FOR DRIVER SAFETY WORLD-WIDE.

Sweden has a long tradition on inventing safety equipment. This is a legacy that we proudly manage and develop further.

With our headquarters and production facility in the south of Sweden and with offices across Europe, we can serve most of our markets with fast and local know-how.

For even more flexible service we offer a wide range of our products through our web shop.

So keep in mind that... **'at the end of the day, we are all about you getting home safe after work'**, so don't hesitate to contact us if you want to know more about driver safety or how to improve the cab security.



HIGH PERFORMANCE SAFETY SCREENS – VIRTUALLY UNBREAKABLE.

Hammerglass AUTOMOTIVE offers a comprehensive range of safety screens for all types of construction machinery, with the focus on a more secure driver environment.

Apart from being one of the market's **most reliable** alternatives for a **safer driver** environment, Hammerglass also facilitates an outstanding **cost efficiency** since the machine owner **avoids production stops** due to unforeseen changes of broken and worn screens.

Hammerglass is a polycarbonate-based product specially developed for exposed environments in need of extra endurance. With a core of polycarbonate and with a unique wear-resistant and double-sided hard-coated finish our screens are one of the most break-resistant materials on the market.

PARTNERS & COLLABORATORS



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