



We provide Safety...worldwide!



# Mobile Vehicle Security Barrier



**VOLKMANN & ROSSBACH GmbH & Co. KG**

experience · competence · flexibility · innovation

# CLAW Concept



**VOLKMANN & ROSSBACH** is one of the leading suppliers of security solutions to protect crowded spaces and products for stopping hostile vehicles.

The innovative **CLAW** protection system has been designed to provide protection from hostile vehicles to temporary and permanent events like sports events, outdoor markets, music festivals, shopping centres, industrial sites, public services and critical infrastructures. The **CLAW** protection system has been successfully tested in two different containment categories.

The system is completely surface mounted, modular and allows, in a very short time, to protect a multitude of scenarios.



Head quarter at Montabaur



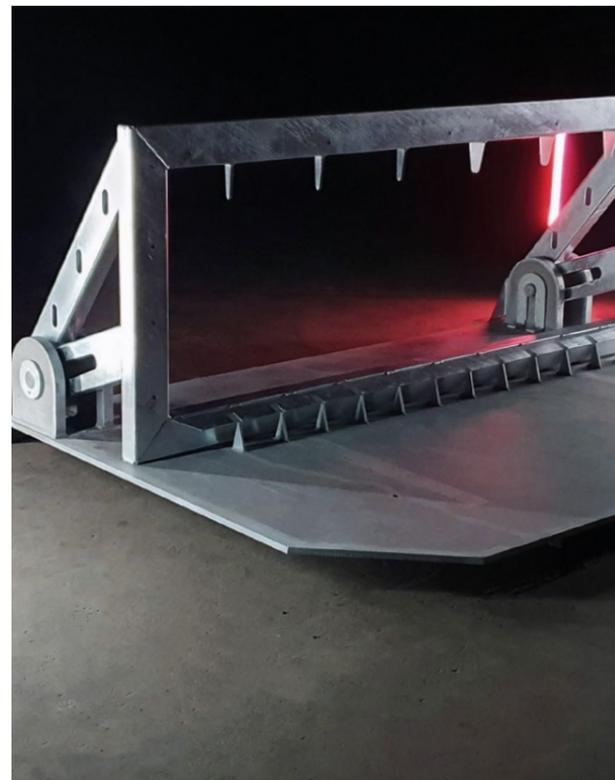
For more than 50 years, **VOLKMANN & ROSSBACH** has been successfully active in the field of traffic safety, road equipment and also in nature and environmental protection. Highly qualified employees and specialists from various departments develop innovative safety barriers, manufacture in modern production facilities and install road restraint systems on site.

Every day, VR makes an active contribution to passive safety all over the world. Skilled experts support the customer in the planning, realisation and control of small and large projects. VR quickly delivers customized solutions tailored to local conditions and construction requirements. Quality is also the VR focus! Every product is strictly designed and controlled during production according to the highest quality Standards.

The service network consists of consulting and development offices, production companies with connected galvanizing plants and own installation teams. VR is recognized as a competent industry consultant in a large number of national and international committees and working groups.

VR will continue to make World safer with new products and services – meeting the slogan:

**We provide Safety... worldwide!**



# Evaluating Product Performance

## International Standards on Vehicle Security Barriers



The three most recognised standards on vehicle security barriers (VSB) have all been developed to address the needs of organisations who wish to have assurance that they are provided with the level of impact resistance that they seek.

The norms have been published by independent standardisation bodies at different times, yet all provide similar rules to determine the performance of a VSB by a full-scale crash test: in general, a conforming product is characterised by the mass of the test vehicle, the impact speed and angle, and the penetration depth of the vehicle and debris into the protected area behind the VSB.

The ISO Workshop Agreement IWA 14-1 has specifically been developed to cover and include the provisions of both, the British PAS 68 as well as the American ASTM F2656. Therefore, the test results and performance ratings of the three standards are comparable to some extent.

### Comparing product performance classifications

	ISO IWA 14-1	ASTM ASTM F2656	bsi. PAS 68
<b>Evaluation Type</b>	D (Design Method) V (Full Scale Crash Test)	-- (Crash Test only)	D (Design Method) V (Full Scale Crash Test)
<b>Vehicle Class</b> (Type - Mass)	M1 (Car - 1,500 kg) N1G (Crew-Cab Pick-Up - 2,500 kg) N1 (Flat-Bed - 3,500 kg) N2A (7.5 to Truck - 7,200 kg) N2B (12-to Bonnet Truck - 7,200 kg) N3C (18-to Truck - 7,200 kg) N3D (15-to Truck - 12,000 kg) N3F (30-to 4-axle Truck - 30,000 kg)	SC (Small Car - 1,100 kg) FS (Full-Size Sedan - 2,200 kg) PU (Single-Cab Pick-Up - 2,300 kg) C7 (Cab-Over Class 7 - 7,200 kg) M (12-to Bonnet Truck - 6,800 kg) H (3-axle Dumper - 29,500 kg)	M1 (Car - 1,500 kg) N1G (Crew-Cab Pick-Up - 2,500 kg) N1 (Flat-Bed - 3,500 kg) N2 (7.5 to Truck - 7,500 kg) N3 (18 to 2-axle Truck - 7,500 kg) N3 (30 to 4-axle Truck - 30,000 kg)
<b>Impact Speed</b>	16, 32, 48, 64, 80, 96 <sup>A</sup> , 112 <sup>B</sup> km/h <small>A) only M1, N1G, N1 B) only M1, N1G</small>	30, 40, 50, 60 mph <small>(50, 65, 80, 100 km/h)</small>	16, 32, 48, 64, 80 <sup>A</sup> , 96 <sup>B</sup> , 112 <sup>C</sup> km/h <small>A) not N2 B) only M1, N1G, N1 C) only M1, N1G</small>
<b>Impact Angle</b>	90° (or worst-case angle)	90°	any (0°-90°)
<b>Vehicle Penetration</b>	Result in Meters (from system front)	Classes: P1 <1m P2 <7m P3 <30m P4 >30m (from system rear end)	Result in Meters (from system rear end)
<b>Debris Dispersion</b>	--	--	Result in Meters
<b>Example Performance Rating</b>	V/2,500(N1G)/64/90/2.6	PU40 - P2	V/2,500(N1G)/64/90:1.7/2.0



# Mobile Hostile Vehicle Barrier

Made in Germany

The protection system, individually tested, is also designed to connect two or more elements together in order to configure a defence perimeter.

CLAW is designed to stop the motion of a vehicle before it reaches its goal. The vehicle is quickly neutralized and the debris, consequent to the impact, are considerably reduced thanks to the conformation and the barrier engagement system.

VR presents a new mobile crash rated barrier with proven stopping capabilities and customizable to meet users' requirements.



**Passenger car 1.5 t**

IWA 14-1:2013 V 1,500(M1) 64 90 4.7  
 PAS 68:2013 V 1500(M1) 64 90 3.9 0.0



**Truck flatbed vehicle 3.5 t**

IWA 14-1:2013 V 3,500(N1) 64 90 8.2  
 PAS 68:2013 V 3500(N1) 64 90 7.3 0.0



**Truck 7.5 t**

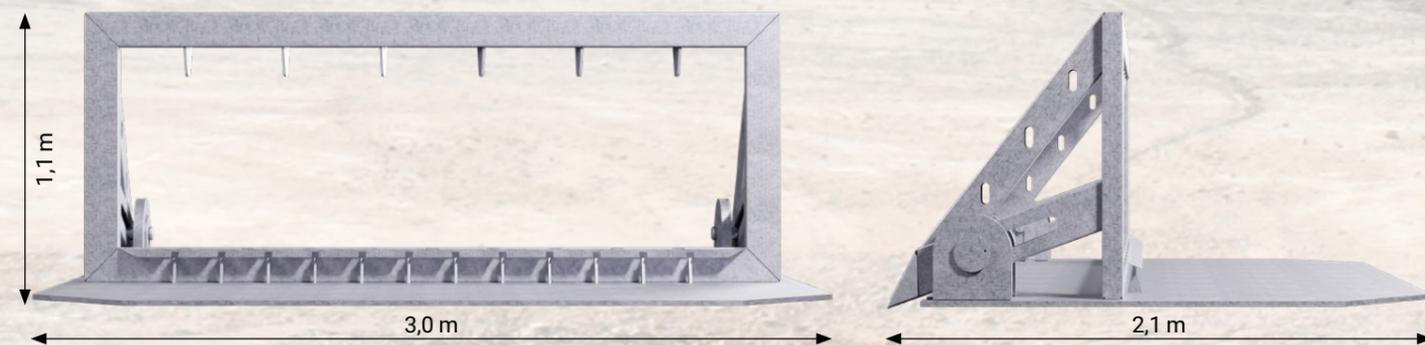
IWA 14-1:2013 V 7,500(N3C) 32 90 1.2  
 PAS 68:2013 V 7500(N3C) 32 90 0.3 0.0



**Truck flatbed vehicle 3.5 t**

V 3,500 48 90 OFFSET 1 m

## Module dimensions



# CLAW Application scenarios



## Pedestrian Friendly Design

The protection system has been designed to be aesthetically pleasing and versatile, in order not to be dangerous for pedestrians and to avoid transmitting a hostile or threatening feeling to people.

Thanks to the modularity of the product, the number of configuration options is almost infinite, allowing CLAW to adapt to any scenario. The CLAW protection system is designed, tested and certified to the highest International Standards.



The CLAW can be deployed in various perimeter security applications all over the world.

## Multi-purpose protection

For additional value, the CLAW can be further accessorised with advertising/sponsorship or information panels, bike rack, trash cans, flower pots, LED lighting further enhancing the benefit of installing these systems in your specific scenario.

The CLAW protection system is completely modular, giving the flexibility to adapt its use to any kind of event.

It can be installed over kerbs, curves and against walls, making it the most versatile option in temporary security. Every single element can also be connected with others creating a completely fenced and protected area.





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