**highly-intelligent stuff.**

Idea of this rear wall was born after watching on e46 torsional rigidity figures:

**E46 Sedan (w/o folding seats) 18000nm/deg**

**E46 Sedan (w folding seats) 13000 nm/deg**

E46 Touring (w folding seats) 14000 nm/deg

E46 Coupe (w folding seats) 12500 nm/deg

E46 Cabrio 10500 nm/deg

What we need to see here? Comparing of two sedans torsional rigidity – difference between two chassis in the steel wall behind the rear seats only! Exceptional 38 percent growth of torsional rigidity with the only one chassis element difference!

Another interesting fact, that e46 coupes and even e46 m3s don’t have chassis options without folding seats (with the factory wall). Same about next generation e9x chassis – bmw didn’t offer “w/o folding seats” option at all, so all of the versions have a hole instead of wall. Sadly, but housewives win marketing battle.

Second comparison of the two chassis, which have difference in the roofs – one has steel list installed with the spot welding, second one – glued with structural glue carbon fiber roof panel.

**E46 M3 18500 nm/deg**

**E46 M3 CSL 18750 nm/deg**

this is the factory figures, and bmw shows us that carbon fiber panel installed with the structural glue give us even more stiffness, then spot welded steel.

***So our idea was to make the unique product, inspired of the factory engineered chassis solution, combined with the factory used top level ways.***

first torsional rigidity product in slon-workshop line was e46 m3 strengthening wall. after the year of track and street testing, we have developed e9x chassis strengthening wall. those customers, who already got it in their cars reported about very noticable difference in the handling (a lot more, then after car washing), due to the growed torsional rigidity.

***It’s important to note, that the main idea of our products was to get noticable real improvements in torsional rigidity of the body and same time, make street compatible solution, to grow the body stiffness of the car without transforming it into track oriented uncompromising rocket, with weld-in roll cage etc.***

So why our stiffness wall has design, compatible with the rear seats.

***at the end, this our loved cars has great chassis in their time, but same time its inevitably aging, needs in some “anti-ageing” upgrades, to stay more competitive to the next generations cars.***

**Pros:**

**exceptional grow in torsional rigidity**

 **smallest weight grow (1.7kg only)**

 **rear seats compatibility**

 **unique, pure performance design**

**cons:**

**trunk compartment hole losing**

- vacuum infusion with post-curing.

- Part weight 1.7kg

- Thick enough - about 2.5millimeters of pure carbon layers.

- Base wave options:

1) Large Twill (stock option from the shelf).

2) Small Twill

3) Plain (OEM style wave)

- It’s fully compatible with your rear seats, so you can use it in daily config of your car.

- Installs with structural glue to the chassis (like OEM carbon fiber roof).

Recommended glues:

1)bmw 83190417144 (aka Sikaforce-7888/SF-7888/Bodywork adhesive K3)

2)Teroson EP 5055

last one little bit easier for work, but harder to buy in US.

**PS Removing possible with the heat gun**

Ps what gives us torsional rigidity?

<https://www.countrychrysler.com/maximizing-torsional-rigidity-and-low-weight.htm#:~:text=When%20referring%20to%20the%20torsional,work%20more%20efficiently%20and%20predictably>.

“Increased torsional rigidity improves the ride quality by allowing the suspension to work more efficiently and predictably.  The driver will better be able to handle the vehicle, the vehicle will be more responsive and the driver will be able to enjoy a smoother solid ride.

So, as you can see, maximizing torsional rigidity allows for a superior driving experience for a driver.”

Another one link:

https://dsportmag.com/the-tech/chassis-tuning-torsional-rigidity/