

Some frequently asked questions:-

HOW DO WE EXPLAIN HOW OUR DIFFERENT BRANDNAMES INTERACT WITH EACH OTHER?

- **Forcefield Performance** is the all encompassing brand which sits above the others only for convenience which gives us the potential to develop other Forcefield brands relating to other specialist areas.
- **Forcefield Body Armour** is the main brand dedicated to protecting against IMPACTS to the body
- **Forcefield Climate Control** is dedicated to protecting against the ELEMENTS (Weather) Wind and Cold and keeping the body feeling comfortable.
- **TPro Technology** refers to what's inside the body armour that makes it work, the design, performance characteristics etc. TPro is a brand that goes back to the early nineties and is remembered with high regard in both the UK and USA. We decided to keep this name going because of the link to the origins of CE protection.

WHAT IS NITREX®?

- Nitrex is the family name for the PVC Nitrile materials used within Forcefield Products in the catalogue. We also use Nitrex as the name for the triangular pattern used throughout Forcefield.

WHAT MAKES FORCEFIELD DIFFERENT?

- Forcefield has led the way in introducing the concept that body armour doesn't have to be hard, rigid and uncomfortable to wear. We are market leaders in soft armour technology. We design our body armour so that it is flexible, moulds to the users' body, stays in place and so comfortable that you wouldn't think about getting on your bike without wearing it. As importantly we have proven that the performance is superior to the more mainstream hard plastic protectors. Forcefield doesn't design products based on price. It designs to performance first. Hence our slogan "PROTECTION WITHOUT COMPROMISE"

WHAT DO THE EN NUMBERS REFER TO IN OUR CATALOGUE?

- EN1621-2:2003: Level 1
- EN1621-2:2003: Level 2
"Motorcyclist's protective clothing against mechanical impacts – Part 2: Motorcyclists back protectors" – "Requirements and test methods": Level 1 and Level 2
- EN1621-2:1998: Level 1
- EN1621-2:1998: Level 2
As above but now replaced by 2003 version
EN1621-2 relates only to back protectors. The impact energy used in the test is 50 joules. If the transmitted force recorded after the impact is between 9 KiloNewtons and 18 KiloNewtons it can be classified as a Level 1 Back protector or insert. If the transmitted force recorded is below 9kiloNewtons then it can be classified as a Level 2 Back protector or insert. The lower the transmitted force in KiloNewtons the more protective the product is. Our current 2009 Level 2 back protector currently transmits about 4.7 KiloNewtons which is outstanding.
- EN1621-1:1997
"Motorcyclists protective clothing against mechanical impact – Part 1: Requirements and test methods for impact protectors"
There is only one performance level according to this standard. It requires that given a 50 Joule impact the protector doesn't transmit a mean figure greater than 35 KiloNewtons. You may come across Type B, Type A and CE Type protectors. Type A and Type B refer only

to the size, shape or coverage. All our protectors are Type B which means they meet the Type B template for coverage within the standard. Type A is a much smaller template more suited to children's sizing. CE sizing refers to full CE Motorcycle Clothing where the armour size relates to the garment size. Instead of one size fits all the armour coverage increases through the size range.

- EN14021:2003
"Stone shields for off road motorcycling suited to protect riders against stones and debris- Requirements and test methods"
This is to do with coverage mainly on the stone shield which protects against lofted stones and debris. The higher level of performance comes from integrating EN1621-1 and EN1621-2 within the product as Forcefield have done with the Extreme Harness. Normal
- EN13277-2:2000 Clause 4.4
"Motorcyclist's protective clothing against mechanical impacts – Part 2: Motorcyclists Back protectors – "Requirements and test methods" and with the coverage requirements of clause 4.4 ("zone of protection") of EN13277-2:2000 "Protective equipment for martial arts – Part 3: Additional requirements and test methods for trunk protectors"
This specifically relates to sizing/ coverage not impact on the Rib protectors for martial arts.
- EN13595-1:2002
"Protective clothing for professional motorcycle riders –Jackets, trousers and one piece or divided suits –Part 1: General requirements" (Annex B- "Determination of clothing restraint"). This standard looks at not only the protective content of a product but takes into account the construction and whether the garment is designed to withstand the impact. If the product disintegrates during a fall it will be of no use. The garment should be designed to ensure that the armour stays in place to do the job that it is required to do.
- EN340:2003
"Protective clothing – General requirements "The part we use is connected to chemical safety. This is a series of tests that ensure that the materials and components we use do not in themselves cause harm to the body. For instance some products in the market could contain banned substances/ chemicals that could be harmful to the user.

HOW RELEVANT ARE THE EUROPEAN STANDARDS?

- The motorcycle limb and back standards take into account protection, comfort and ergonomic requirements but is by no means perfect. What products do that conform to the standard is reduce the incidence and severity of injuries. With authentic CE approved limb or back protectors the consumer at least knows that some thought has gone into the development of the product and that it has been accredited by an authorised body. It has a value! It's not just the manufacturer making claims that cannot be substantiated. Consumers should research and feel free to ask about an individual products performance.

We know with fake and non approved CE protectors that almost without exception, the product has no capability to protect; it's effectively useless and misleads the consumer into believing that he has a protective protect. No reputable company in the motorcycle industry should sell non conforming products where a standard protecting the consumers exists.

WHAT IS A JOULE OF ENERGY?

- The standards relevant to the motorcycle protectors make reference to impact energy of 50 joules. This is the amount of energy that strikes the protector when tested in a laboratory. In Europe the best analogy I can come up with is it is like an average house brick weighing 2.5 kilos being dropped from 2 metres height. You can replace a brick with any other object that weighs approximately 2.5 kilos as an alternative to a house brick.

WHAT IS A KILONEWTON?

- A KiloNewton is a measure of the amount of TRANSMITTED FORCE that enters the body following an impact. It is the amount of transmitted force that enters the body that results can determine the severity of the injury when receiving a direct blow.

MOULDED ARMOURFLEX / NITREX IS 40% GREATER THAN THE CURRENT REQUIREMENTS OF EN1621-1:1997

- The requirements for EN1621-1: 1998 require that given impact energy of 50 joules that no more than 35 KiloNewtons of transmitted force are recorded.
Our Moulded Armourflex/Nitrex (Upgrade Performance Armour) can take an impact of 70 Joules and still transmit below 35 KiloNewtons.
Therefore: - 70 joules is 40% greater than 50 Joules.

HOW DOES OUR NITREX DESIGN ABSORB IMPACTS?

- You will know that almost without exception every Forcefield product is made using a triangular grid material that we call Moulded Nitrex now.
This is made of interconnecting walls where the width of the wall at the base is always wider than at the top. This is triangular in shape. These walls all interconnect which means that the material is structurally solid and sound.
It isn't just down to the design. It's as much down to the Nitrex formula which is a shock absorption material with outstanding performance characteristics. Its light, its elastic, it has a slow recovery and is robust.
Poor materials when impacted will compress too much allowing too much energy to pass through; it's what we call "bottoming out". It bottoms out without doing its job and is effectively useless!
You could say a very hard material when impacted wont compress so this would be good. But this isn't the case either. So you get materials that are too soft and too hard.
The ideal material is one that on impact compresses to a degree but then slowly returns to its original shape and size. This means that you are maximising the length of time so that as much energy can be absorbed.
So on impact what you are trying to do is delay as long as possible the moment of peak transmitted force. This force is what does the damage to the body. So the better the material the longer this moment is delayed. The time is measured in milliseconds.

Our materials slow the moment of peak transmitted force and spread the damaging forces over the whole surface which means that the material is used to its maximum. Remember in the German magazine test which showed how hard shell protectors absorb energy differently down the centre compared to the outer edges where as ours was almost equal across its whole surface. (Please refer to attached as a reminder)

DVD

- We plan to have a DVD available to all our distributors to use as a reference but also as an

education tool as well. We all agree this is very important. Our initial thoughts are that we want to get some of our sponsored riders to be involved in this, to talk us through how and why they wear our products, to visually see this and hear their endorsement at the same time. We want to get a motorcyclist, Snowboarder and Mountain Biker to do this. We also want to do this to include our 2010 products but we are committed to having this ready for 2010.

MAGAZINE AND RIDER QUOTES

- We have produced a sheet that shows the key quotes from several sources.
(Please refer to the attached)

FORCEFIELD DISPLAY

- We are currently working on a display system that can be used by dealers and stores to promote the whole range professionally and effectively. We would like to launch with our 2010 range.