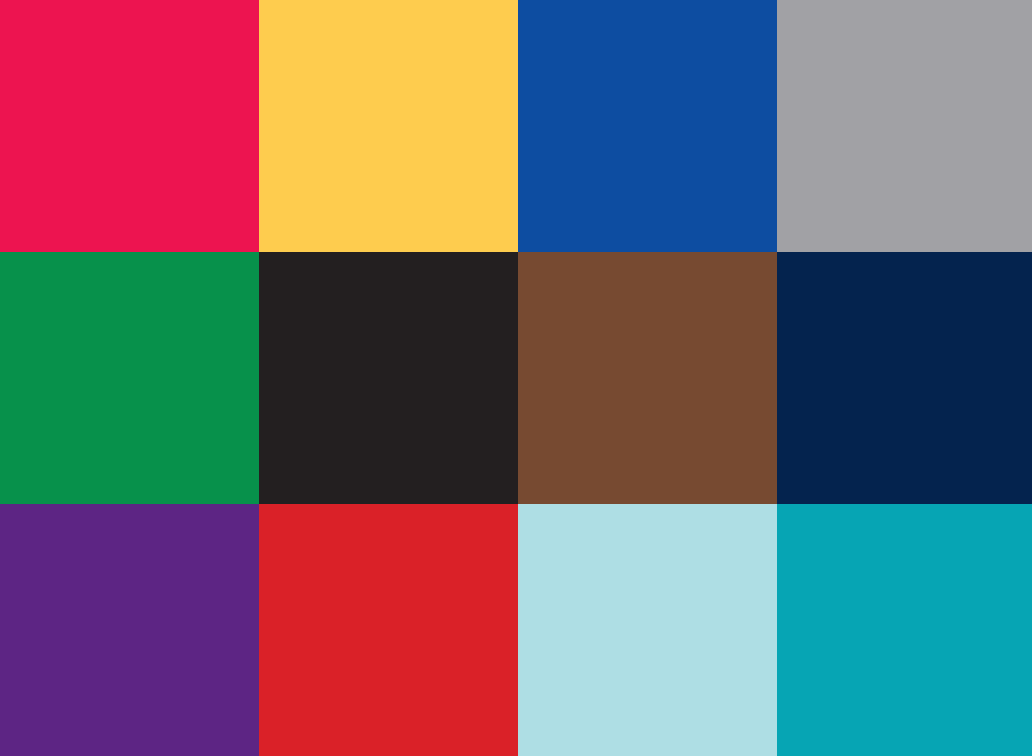


Introducing **Briteguard Plus**
High Impact Mouthguard Material



Briteguard and **Briteguard Plus**

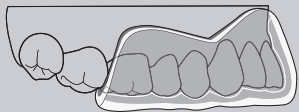
are the registered trade marks of the mouthguard material manufactured by Sportsguard Pty Ltd.

CE ISO9002 ARTG code 113957

Patent application pending – 2004237911

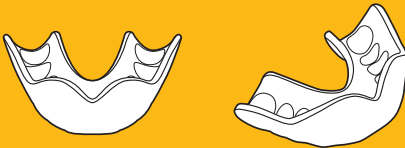


Proudly manufactured in Australia



Improved strength

Masterminded by dental industry leader Sportsguard Pty Ltd, **Briteguard Plus**[®] is the first cross-polymer metallocene catalyzed mouthguard material manufactured in Australia. Incorporating groundbreaking improvements in energy absorption to lessen the risk of orofacial injuries, **Briteguard Plus**[®] laminated mouthguard material provides an impressive high impact strength 30% greater than mouthguards manufactured in traditional EVA material.



Thinner, but stronger

The energy absorption improvements inherent in the manufacture of **Briteguard Plus**[®] result in thinner, yet stronger mouthguards. This has obvious benefits for people who risk safety because they consider their current mouthguard too bulky, cumbersome or uncomfortable.



ISO 9002

Safety a No 1 priority

Every colour, and every colour combination in the Briteguard range has been rigorously tested to prove it's absolutely safe. Briteguard colours are totally organic and contain no cadmium or heavy metals. Manufactured in accordance with the Standards of the ISO 9002 Quality Assurance Model and meeting the requirements of European and US regulations for food products, Briteguard Mouthguard Material has also been granted CE approval rating.

Here's proof!

Briteguard Plus[®] has undergone exhaustive laboratory testing to evaluate the effectiveness of its EVA-modified formulations on energy absorption.

In the testing phase of manufacture, varying amounts of metallocene-based polymers were used to compound EVA grade material to discover the optimum polymer blends for tensile and impact properties. These tests were carried out in strict accordance with ASTM D 638 and D 3763-93 using INSTRON and RADMANA Instrumented Impact Testers (ITR 2000).

Test 1

Testing conditions

Test method	ASTM D638 Type 2 specimen
Crosshead speed	500mm/min
Temperature	23°C
Sheet thickness	2mm

*5 specimens tested for each formulation,
mean result tabulated*

Density and Shore A hardness included.

Laboratory test results

Formulation	Sheet thickness (mm)	Density (Gm/cc)	Shore A hardness	Tensile Test Peak load (kg)	Modulus (MPa)
EVA	2	0.94	86	16	17.5
Briteguard Plus	2	0.95	87	18	21.7

Test 1

Testing conditions

Test method	ASTM D638 Type 3 specimen
Crosshead speed	500mm/min
Temperature	23°C
Sheet thickness	3mm

*5 specimens tested for each formulation,
mean result tabulated*

Density and Shore A hardness included.

Laboratory test results

Formulation	Sheet thickness (mm)	Density (Gm/cc)	Shore A hardness	Tensile Test Peak load (kg)	Modulus (MPa)
EVA	3	0.95	86	22	21.9
Briteguard Plus	3	0.94	87	25	33.5

Test 1

Testing conditions

Test method	ASTM D638 Type 4 specimen
Crosshead speed	500mm/min
Temperature	23°C
Sheet thickness	4mm

*5 specimens tested for each formulation,
mean result tabulated*

Density and Shore A hardness included.

Laboratory test results

Formulation	Sheet thickness (mm)	Density (Gm/cc)	Shore A hardness	Tensile Test Peak load (kg)	Modulus (MPa)
EVA	4	0.95	86	25	21.7
Briteguard Plus	4	0.94	87	30	33.5

Test 1

Testing conditions

Test method	ASTM D638 Type 5 specimen
Crosshead speed	500mm/min
Temperature	23°C
Sheet thickness	5mm

*5 specimens tested for each formulation,
mean result tabulated*

Density and Shore A hardness included.

Laboratory test results

Formulation	Sheet thickness (mm)	Density (Gm/cc)	Shore A hardness	Tensile Test Peak load (kg)	Modulus (MPa)
EVA	5	0.95	86	27.2	21.9
Briteguard Plus	5	0.94	87	33.0	33.5

Test 2

Testing conditions

Carried out using Instrumental Impact Tester ITR2000

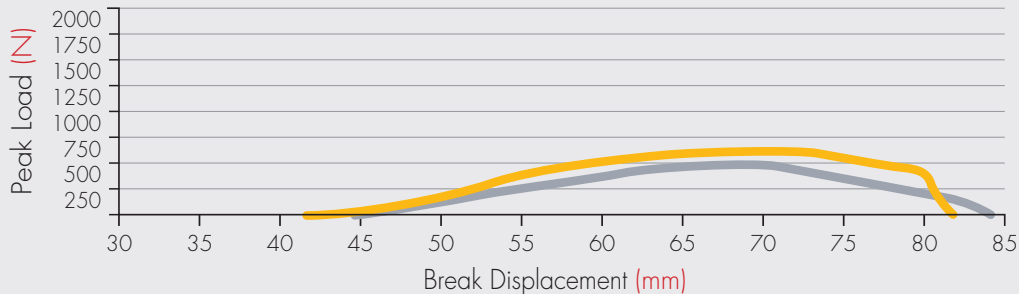
ASTM D 3763-93 performed using plunger velocity of 4m/sec and 30mm anvil to house test specimen ranging from 2 – 5mm thickness.

Sheet thickness 2mm

- EVA
- Briteguard Plus

Laboratory test results

Formulation	Thickness (mm)	Peak load (Newtons)	Energy to break (Joules)
EVA	2	719	16.24
Briteguard Plus	2	852	17.86



Test 2

Testing conditions

Carried out using Instrumental Impact Tester ITR2000

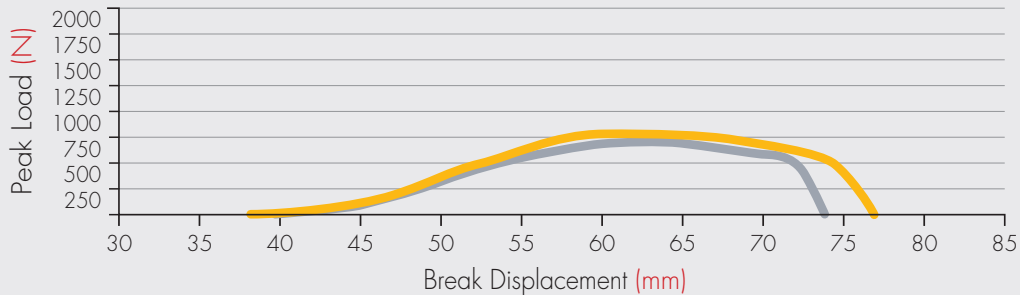
ASTM D 3763-93 performed using plunger velocity of 4m/sec and 30mm anvil to house test specimen ranging from 2 – 5mm thickness.

Sheet thickness 3mm

- EVA
- Briteguard Plus

Laboratory test results

Formulation	Thickness (mm)	Peak load (Newtons)	Energy to break (Joules)
EVA	3	1150	26.38
Briteguard Plus	3	1270	27.09



Test 2

Testing conditions

Carried out using Instrumental Impact Tester ITR2000

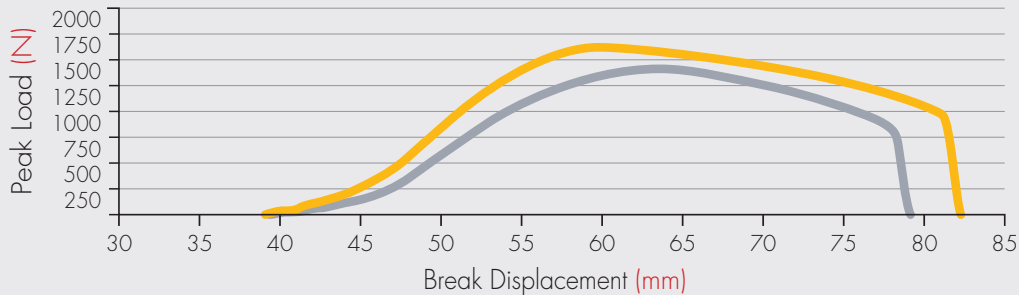
ASTM D 3763-93 performed using plunger velocity of 4m/sec and 30mm anvil to house test specimen ranging from 2 – 5mm thickness.

Sheet thickness 4mm

— EVA
— Briteguard Plus

Laboratory test results

Formulation	Thickness (mm)	Peak load (Newtons)	Energy to break (Joules)
EVA	4	1418	35.50
Briteguard Plus	4	1622	47.60



Test 2

Testing conditions

Carried out using Instrumental Impact Tester ITR2000

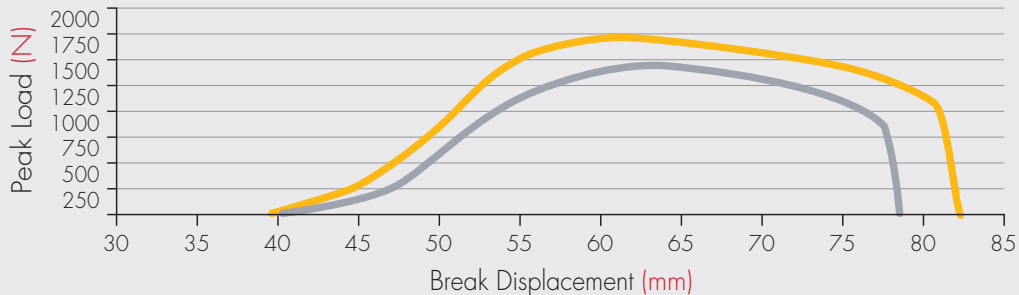
ASTM D 3763-93 performed using plunger velocity of 4m/sec and 30mm anvil to house test specimen ranging from 2–5mm thickness.

Sheet thickness 5mm

- EVA
- Briteguard Plus

Laboratory test results

Formulation	Thickness (mm)	Peak load (Newtons)	Energy to break (Joules)
EVA	5	1620	47.25
Briteguard Plus	5	1622	47.60



Advantages of Briteguard Plus® over traditional EVA

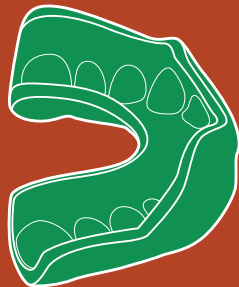
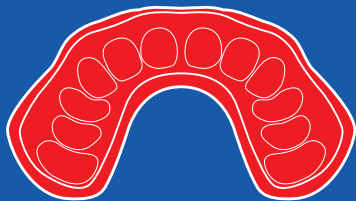
- Less dense, lighter
- Stiffer, harder, providing better resistance to penetration in early stages of impact when greatest damage to wearer can occur
- Greater tensile strength and increased toughness – needs higher pulling strength to break
- Superior impact strength – greater energy absorption, affording improved wearer protection
- Moulding composition of superior properties
- Energy absorption capabilities dramatically improved
- Better oral fit and feel
- Improved mouthguard performance

Guidelines for lamination

For the fabrication of sports mouthguards to the approximate thickness required by Standards Australia International and Australian Dental Association Inc., use **Briteguard Plus®** 4mm (white) with **Briteguard Plus®** 2mm (clear). For non-laminate, use **Briteguard Plus®** 5mm (white).

Full **Briteguard Plus®** colour range available in 2007.





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