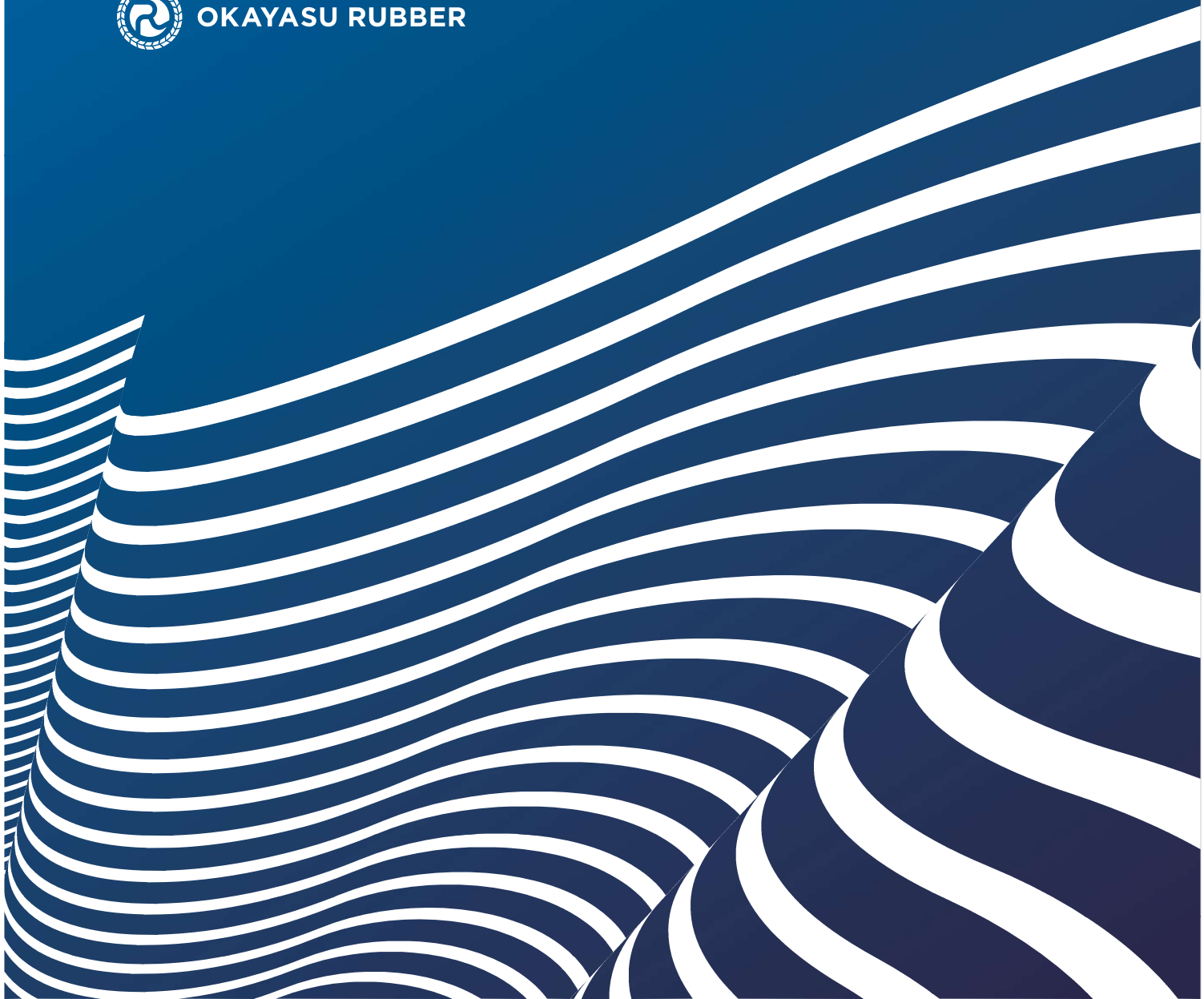


TOUGHLONG SERIES

- TOUGHLONG - ES5
- TOUGHLONG - ES5 Gray / Brown
- TOUGHLONG - MicroCell
- TOUGHLONG - ToughSheet



OKAYASU RUBBER





TOUGHLONG SERIES



Anti-slip



Cushioning



Gap
Filling



Floor
shock
absorption



Sound
Absorption



Water
Sealing

TOUGHLONG Series – it complies with users' expectation in every scenes.



OKAYASU RUBBER

OKAYASU RUBBER CO., LTD

HQ Plant 271-1 Yamadera-cho, Kusatsu, Shiga, 525-0042, Japan
Osaka Office 3-9-13 Higashiobase Higashinari-ku, Osaka, Osaka, 537-0024, Japan
Nagoya Office F4 Nagoya Itochu bldg., 1-5-11 Naka-ku Nishiki, Nagoya, Aichi, 460-0003, Japan
Omiya Office Mio Omiya, 1-9-18, Sakuragi-cho, Omiya-ku, Saitama, Saitama, 330-0854, Japan

Okayasu Rubber Malaysia Sdn Bhd
Lot 3846, Jalan 4-D, Kampung Baru Subang, Seksyen U6, 40150, Shah Alam,
Selangor Darul Ehsan, Malaysia Tel.(60-3)6157-2001 Fax.(60-3)6157-0679

Okayasu Rubber America Inc.
12762 O'Connor Road, San Antonio, Texas 78233 USA
Tel.+1-(210)-880-1310



<https://www.okayasu-rubber.co.jp/en/>

Inquiry

Tel. 077-562-7271 / Fax. 077-562-7289

E-mail okayasu.pm@okayasu-rubber.co.jp

Microcell type Rolled EPDM Rubber Sponge Sheet TOUGHLONG - MicroCell



A wide, double sided skin, closed cells and long roll form EPDM Rubber Sponge sheet produced with unique manufacturing processes as a rubber Extruding/Molding manufacturer. It has excellent performance in sealing at low compression ratio, heat insulation and shock absorption. It is recommended for the application requiring higher durability than Toughlong - ES5.

MicroCell 10

Extruded Sponge Roll
Higher Hardness at Low Density

Specs

Material	Closed Cell EPDM Rubber Sponge
Supply shape	Roll/ Sheet / Slit Roll
Effective Width	1,000mm
Thickness(mm)	3.5, 10, 15
Length/Roll	Standard 10m/roll



Roll

- Water repulsive by double sided skin
- Standard package = Roll form (10m/roll)
- Better yield rate for die-cutting
- Water sealing at low compression ratio
- Complied with flame resistance standard (UL-94 HBF+FMVSS302)

Application Water seal, Gap filler, Insulation, Cushioning, Anti-slip, Sound Absorption etc.

MicroCell 20

Extruded Sponge Roll
but with molded sponge property

Specs

Material	Closed Cell EPDM Rubber Sponge
Supply shape	Roll/ Sheet / Slit Roll
Effective Width	1,000mm
Thickness(mm)	3.5, 10, 15
Length/Roll	Standard 10m/roll



Roll

Physical Property Test	Unit	Result		Test Condition
		10	20	
Tensile Strength (Tb)	N/mm ²	0.41	0.67	JIS K6251
Elongation at break (Eb)	%	160	180	
Hardness/Asker C (Hs)	Pts	11	19	JIS K7312
25% Compression Load	kPa	40	60	Compression Speed 10mm/min
50% Compression Load	kPa	109	153	
Specific Gravity	—	0.13	0.2	Archimedeian method
10% Compression	—	×	×	○ No leakage for 30mins × Leakage within 10 mins
25% Compression	—	○	○	
50% Compression	—	○	○	
Change % in Tb	%	0	+14	100°C × 72Hours
Change % in Eb	%	0	-10	
Change pts in Hs	Pts	+1	+3	

Remarks : The above is tested using 5mm thick samples. These values are referential purpose only.

Thin Rolled EPDM Rubber Sponge Sheet

TOUGHLONG - ToughSheet



A wide, double sided skin, closed cells, long roll form and thin EPDM Rubber Sponge sheet produced with unique manufacturing processes as a rubber Extruding/Molding manufacturer. It has excellent performance in sealing at low compression ratio, heat insulation and shock absorption. It is recommended as an alternative material for elastomeric sheets for weight saving purpose.

ToughSheet 25

Thin & Light
Rolled Sponge Sheet

Specs

Material	Closed Cell EPDM Rubber Sponge
Supply shape	Roll/ Sheet / Slit Roll
Effective Width	1,000mm
Thickness(mm)	1.5, 2.0
Length/Roll	Standard 10m/roll



Roll

- Water repulsive by double sided skin
- Standard package = Roll form (10m/roll)
- Better yield rate for die-cutting
- Water sealing at low compression ratio

Application Water seal, Gap filler, Insulation, Cushioning, Anti-slip, Sound Absorption etc.

ToughSheet 50

Less than 1.0mm thickness
As a sponge sheet!

Specs

Material	Closed Cell EPDM Rubber Sponge
Supply shape	Roll/ Sheet / Slit Roll
Effective Width	500mm
Thickness(mm)	0.5, 1.0
Length/Roll	Standard 10m/roll



Roll

Physical Property Test	Unit	Result		Test Condition
		25	50	
Tensile Strength (Tb)	N/mm ²	0.63	3.24	JIS K6251
Elongation at break (Eb)	%	320	270	
Hardness/Asker C (Hs)	Pts	23	48	JIS K/312
25% Compression Load	kPa	80	95	Compression Speed 10mm/min
50% Compression Load	kPa	195	321	
Specific Gravity	—	0.23	0.83	Archimedeian method
10% Compression	—	×	—	○ No leakage for 30mins × Leakage within 10 mins
25% Compression	—	○	—	
50% Compression	—	○	—	
Change % in Tb	%	0	-4	100°C × 72Hours
Change % in Eb	%	-7	-19	
Change pts in Hs	Pts	+4	+2	

Remarks : ToughSheet 25 result above is tested using 2mm thick samples. ToughSheet 50 result above is tested using 1mm thick samples. These values are referential purpose only.

※ It is recommended as an alternative material for solid sheets for weight saving purpose.

Rolled EPDM Rubber Sponge Sheet

TOUGHLONG - ES5



A wide, double sided skin, closed cells and long roll form EPDM Rubber Sponge sheet produced with unique manufacturing processes as a rubber Extruding/Molding manufacturer. It has excellent performance in sealing at low compression ratio, heat insulation and shock absorption.

A variety of thickness

Wide, Double sided skin and Roll form Sponge Sheet



Specs

Material	Closed Cell EPDM Rubber Sponge
Supply shape	Roll/ Sheet / Slit Roll
Effective Width	1,000mm
Thickness(mm)	2, 3, 4, 5, 8, 10, 15, 20 (6, 7, 9, 11~14 => Made upon order)
Length/Roll	Standard 10m/roll

- Water repulsive by double sided skin
- Standard package = Roll form (10m/roll)
- Better yield rate for die-cutting
- Water sealing at low compression ratio
- Complied with flame resistance standard (UL-94 HBF•FMVSS302)

Application Water seal, Gap filler, Insulation, Cushioning, Anti-slip, Sound Absorption etc.

Physical Property Test	Unit	Result	Test Condition
Tensile Strength (Tb)	N/mm ²	0.32	JIS K6251
Elongation at break (Eb)	%	180	
Hardness/Asker C (Hs)	Pts	5	
25% Compression Load	kPa	34	Compression Speed 10mm/min
50% Compression Load	kPa	105	
Specific Gravity	—	0.13	Archimedeian method
10% Compression	—	×	○ No leakage for 30mins × Leakage within 10 mins
25% Compression	—	○	
50% Compression	—	○	
Change % in Tb	%	±0	100°C × 72Hours
Change % in Eb	%	-11	
Change pts in Hs	Pts	+1	

Remarks : The above is tested using 5mm thick samples. These values are referential purpose only.

Rolled EPDM Rubber Sponge Sheet / Color

TOUGHLONG - ES5

Gray / Brown



A wide, double sided skin, closed cells and long roll form EPDM Rubber Sponge sheet produced with unique manufacturing processes as a rubber Extruding/Molding manufacturer. It has excellent performance in sealing at low compression ratio, heat insulation and shock absorption. Other variation of colors may be available upon request.

A Variety of colors and thickness

Wide, Double sided skin and Roll form Sponge Sheet



- Water repulsive by double sided skin
- Standard package = Roll form (10m/roll)
- Better yield rate for die-cutting

Application Water seal, Gap filler, Insulation, Cushioning, Anti-slip, Sound Absorption etc.

Specs

Material	Closed Cell EPDM Rubber Sponge
Supply shape	Roll/ Sheet / Slit Roll
Effective Width	1,000mm
Thickness(mm)	3, 5, 10, 15
Length/Roll	Standard 10m/roll

Physical Property Test	Unit	Result		Test Condition
		Gray	Brown	
Tensile Strength (Tb)	N/mm ²	0.28	0.33	JIS K6251
Elongation at break (Eb)	%	180	180	
Hardness/Asker C (Hs)	Pts	7	7	
25% Compression Load	kPa	35	37	Compression Speed 10mm/min
50% Compression Load	kPa	105	109	
Specific Gravity	—	0.12	0.12	Archimedeian method
10% Compression	—	×	×	○ No leakage for 30mins × Leakage within 10 mins
25% Compression	—	○	○	
50% Compression	—	○	○	
Change % in Tb	%	±0	-6	100°C × 72Hours
Change % in Eb	%	-21	-20	
Change pts in Hs	Pts	+2	+2	

Remarks : The above is tested using 5mm thick samples. These values are referential purpose only.

*Other colors may be available upon request. (Please do not hesitate to query)

