

TRIVAR® Extruded UHDPE Wearstrips

BELT TECHNICAL DATA SHEET



















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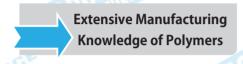




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Belting Edge(Pty) Ltd is well prepared to meet the needs of your high volume or small scale requirements and has more than 30 years' experience in high performance polymer applications. Cutting edge manufacturing technology and processing centres allow for rapid, flexible and economic production of subassemblies, prefabricated parts and components.







Nationwide Distribution
Channels

Research & Development Programs

Improved Cost Management



Wear strips, sliding supports and guides, as well as curved and straight tracks that are extruded or machined, and are used in many industries, including bottling, packaging, mechanics, chemistry, pharmaceutics, ceramics, glass, food processing, paper, etc.

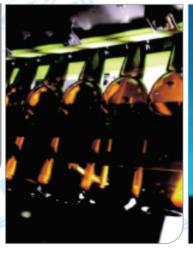
Our TIVAR grades of UHMWPE offer impact resistance, tensile strength at high temperatures, and energy absorption under high stress levels. This catalogue covers the standard range of TIVAR wear extruded and machined profiles.

Some TIVAR advantages are:

- · Lower drag and noise
- · Shock absorbing & self-lubricating
- · Very low coefficient of friction
- · High impact and bending strength
- Virgin TIVAR is FDA approved
- No moisture absorption
- Bacteria free & hygienic
- Reduced power requirements
- Excellent chemical resistance, erosion & abrasion resistant
- · Environmentally friendly and recyclable.

INDUSTRIES SERVED:

- · Filtration;
- · Unit Material Handling;
- Bottling & Canning.





APPLICATIONS:

WEAR STRIPS are used to reduce wear or erosion in mechanical systems. They are used wherever abrasion, impact, or heat may cause wear and tear on mechanical components. The proper selection of wear strips, plates and parts requires an understanding of both application requirements and product specifications. Wear Strips protect manufacturing machinery from abrasion or impact. TIVARUHMWPE wear strips are resistant to the abrasive effects of the bulk processing of grain, ore, salt, limestone, coal, glass, and fly ash. Anti-static and UV treated grades are available on request.

- Used as a sliding support for plastic modular belts and chains, or as a guiding aid for various purposes;
- Used in a wide range of industries such as bottling, packaging, materials handling, and food processing.

TIVAR UHMWPE INDUSTRIAL CHAIN GUIDES, Conveying Components & Industrial Chain Guides for Roller Chains: TIVAR industrial chain guides are available in TIVAR 10-100, which meets guidelines for food handling, including those from FDA, USDA and 3-A Dairy. TIVAR's self-lubricating surface minimises friction and extends chain life. TIVAR industrial chain guides are quiet, reduces noise and are made for use with plastic or metal chains.

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Virgin TIVAR exhibits a very well balanced property profile. It is the preferred standard and has been specially formulated to be used in wear strip and chain guide applications. It sets the standard for engineered polymers with a unique combination of wear and corrosion resistance, low friction surface and impact strength at temperatures between -200 to 95 degrees Celsius. It is ideal for use in industrial freezers, in cryogenic applications and in areas with intermittent temperatures. TIVAR 10-100 is resistant to chemical ®attack and moisture absorption. TIVAR components are non-stick. Anti-static and UV-resistant grades are available on request. Kindly enquire with our sales force.

Various colours and additives can be added for identification or for specific needs. Wear strips are available in a range of TIVAR Grades to suit your application.

PROPERTY	UNIT	TESTING METHOD	TIVAR CERAM-P	TIVAR G12	TIVAR 10-100	CONFETTI	TIVAR DS	ULTRALENE	TIVAR 88	TIVAR 88.2 WELDABLE
Density	g/cm ų	5 lb	0.93	0.93	0.93	0.94	0.93	0.93	0.93	0.93
Colour	161	-	Lime Green	Pale Green	White	Multi/Mixed	Bright Yellow	Burgundy	Light Blue	Dark Blue

	MECHANICAL PROPERTIES:									
Yield Stress	N/mmű	5 lb ISO 527	18+	17+	17+	18+	17+	18+	17+	17+
Notched Impact Strength	mJ/mm	DIN 53453 (Double 15 V notch)	120	200	200	110	120	200	90	130
Shore Hardness	D	DIN 53505	64	62	62	64	63	63	63	63
Dynamic coefficient of friction	Ratio tension to load	Plastic to steel (roughness 2- 2.5	0.09-0.1	0.1-0.12	0.1-0.12	0.14-0.16	0.1 - 0.12	0.1-0.12	0.09 - 0.1	0.08-0.09
Abrasion Resistance (see note below)	Relative (the low er the better)	Sand Slurry 1200 rpm/24 hours	80 (very good)	100 (good)	100 (very good)	130 (fair/good)	90 (very good)	98 (good)	70 (excellent)	98 (good)

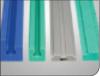
NOTE: The sand slurry testing method rotates a sample in quarts slurry for 24 hours at 1200 rpm and measures the volumetric loss. However, this is not necessarily a reflection of wear under low stress sliding abrasion conditions. The lower the figure the better.

	THERMAL PROPERTIES:										
Working temperature continuous	A	-	-200 to 80-90	-200 to 80-90	-200 to 80-90	-200 to 80-90	-200 to 80	-200 to 80-90	-200 to 80-90	-200 to 80-90	
Working temperature max. short period	A	-	100	100	100	100	100	100	100	100	
Coefficient of linear expansion	A ⁻¹	DIN 53752	1.8 x 10 ⁻⁴	2 x 10 ⁻⁴	1.8 x 10 ⁻⁴	2 x 10 ⁻⁴					
Heat conductivity at 20 Å	W/A/ †	DIN 52612	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	

NOTE: Whille every care has been taken in the compilation of this data based on the tests from authorative sources and practical experience, no liability can be accepted.















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Standard TIVAR® Profiles

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CLIP-ON L-SHAPES: Extruded and machined profiles in various shapes, sizes and designs are used as flexible sliding support or guiding aids.

DESCRIPTION DIMENSIONS CLIP-ON L SHAPE SX 21 (21 x 3) 50 M COILS STD. COLOUR GREEN DIE: 18 CLIP-ON L SHAPE SX 27 (20 x 5) 50 M COILS STD. COLOUR WHITE DIE: 25 CLIP-ON L SHAPE SX 74 (25 x 3) 50 M COILS STD. COLOUR WHITE DIE: 92 CLIP-ON L SHAPE SX 72 (40 x 3) 50 M COILS STD. COLOUR WHITE DIE: 91 20.5 CLIP-ON L SHAPE SX 28 (55 x 5) 50 M COILS STD. COLOUR WHITE DIE: 25 CLIP-ON L SHAPE SX 29 (70 x 5) 50 M COILS STD. COLOUR WHITE DIE: 25 CLIP-ON L SHAPE SX 31 (3/16 GAP) (20×4.8) 50 M COILS STD. COLOUR WHITE



Machined and extruded UHMWPE profiles for chain guides and plastic wear strip applications reduce vibration and friction, offering very high wear resistance. Plastic profiles and wear strips offer superior wear resistance to stainless steel wear strips in a similar application.

Extruded Profiles can be used as belt guides, guide rails and protective edging. They are high impact resistant and will not mar most cans or bottles.

Extruded Profiles are presently used in the material handling industry, as component parts in conveyor lines in the automotive industry, lumbering, food/beverage packaging, and other industries which require a tough, wear-resistant material.

TIVAR® Extruded Profiles fights abrasion and corrosion while contributing a low coefficient of friction. It weights 1/7 the weight of steel, 1/3 of the weight of aluminum, and outwears abrasion-resistant steel 3 to 1.



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- 4. Anti-static & UV-Grades are available on request.

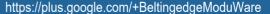
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BELT TECHNICAL DATA SHEET

L-SHAPES:

DESCRIPTION	ON	DIMENSIONS	;
L SECTION SX 2 (20 x 3) 50 M COILS STD. COLOUR 0 DIE: 1	GREEN	3 🕽	5.3
L SECTION SX 37 (53 x 3) 50 M COILS STD. COLOUR (DIE: 50	GREEN 31	52	1 6
L SECTION SX 14 (55 x 5) 6 M LENGTH 50 M COILS STD. COLOUR V DIE: 25	WHITE 4.8 1	55	

TIVAR® materials will reliably move your materials and products.

Key features of TIVAR® Extruded Profiles:

- Low coefficient of friction
- · Self-lubricating
- · Good vibration and noise absorption
- High wear resistance
- High chemical resistance, no corrosion
- No moisture absorption
- High dielectric strength
- High impact and fracture strength

Z-SHAPES:

DESCRIPTION	DIMENSIONS
Z SECTION SX 1 (20 x 3) 50 M COILS STD. COLOUR GREEN DIE: 62	3 \$ \$ 5.4
Z SECTION SX 18 (23 x 4) 50 M COILS STD. COLOUR BLACK DIE: 14	7 1 1 4 3



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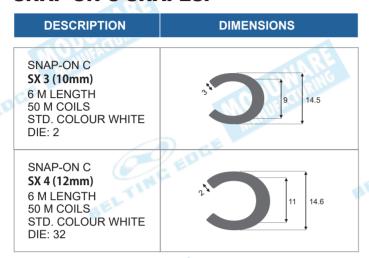






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SNAP-ON C-SHAPES:



C-SECTIONS:

DESCRIPTION	DIMENSIONS
The state of the s	dr.
C SECTION SX 9 (40 x 8) 6 M LENGTH STD. COLOUR BLACK & WHITE DIE: 7	50.5
C SECTION SX 22 (37 x 12) 6 M LENGTH STD. COLOUR WHITE DIE: 20	2.5 \$\frac{47}{2.5 \frac{1}{2}} \qquad \qquad \qquad 37 \qquad \qqquad \qqqq \qqq \qqqq \qqq \qqqq \qqq \qqqq \qqq \qqqq \qqq \qqqq \qqq \qqqq \qqq \qqqq \qqq \qqqq \qqq \qqqq \qqq \qqqq \qqq \qqqq \qqq \qqqq \q
C SECTION SX 50 (40 x 10) 6 M LENGTH STD. COLOUR BLACK & WHITE DIE: 38	47 4.4 \$\frac{40.7}{2.4 \$\frac{40.7}{33}}
C SECTION SX 45 (50 x 8) 6 M LENGTH STD. COLOUR GREEN & WHITE DIE: 51	55 1.8\$ 52 39



UHMWPE Profiles- Guide Rails:

UHMWPE can be extruded into a limitless variation of custom profiles to suit your needs. Typical TIVAR® UHMWPE parts include: Guide Rails, Chain Guides, Wear Strips, Pulleys, Chain Tensioners & other custom profiles. An excellent general-purpose material, TIVAR® 10-100 (natural) is a cost-effective solution for food handling problems, and meets FDA, USDA and 3-A Dairy guidelines for food processing and handling.

Quadrant also offers custom colors compounded with FDA/USDA approved pigments, which meet FDA and USDA guidelines for food processing and handling. Whether your business is grain, pharmaceuticals, pizza dough or frozen poultry, TIVAR® material will reliably move your materials and products.



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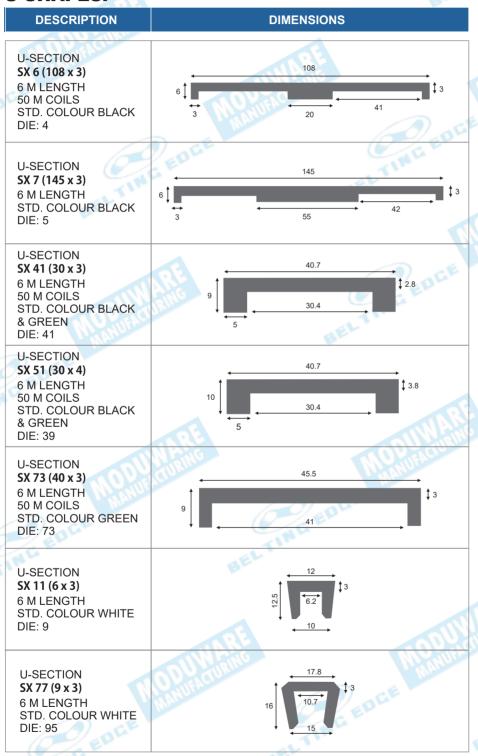




Standard TIVAR® Profiles

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U-SHAPES:





TIVAR® polyethylene is the brand name of Quadplastic Engineering Plastic Products.

TIVAR® is an extensive range of Virgin, partially reprocessed, coloured or modified Ultra High Molecular Weight Polyethylene (UHMWPE) stock shapes, manufactured by compression moulding or ram extrusion.

In less demanding applications with respect to wear and impact resistance, PE 500 grade polyethylene may present an economical alternative for the TIVAR® standard grades.

There are many variations of TIVAR® 1000 polyethylene that have been created to meet specific market requirements. TIVAR® proprietary Polyethylene grades offer improved sliding and wear properties, static dissipative characteristics, enhanced release properties or improved engineering characteristics.



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Standard TIVAR® Profiles

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EDGE STRIPS:

DESCRIPTION	DIMENSIONS
EDGE STRIP SX 34 (20 x 8) 50 M COILS STD. COLOUR WHITE DIE: 72	20 \$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
EDGE STRIP SX 46 (25 x 16) 6 M LENGTH 50 M COILS STD. COLOUR WHITE DIE: 57	3.7‡ 25 16
EDGE STRIP SX 57 (27 x 25) 6 M LENGTH STD. COLOUR WHITE DIE: 61	25 7.5 7.5 4
EDGE STRIP SX 93 (20 x 16) 50 M COILS STD. COLOUR WHITE DIE: 72	20 \$\frac{20}{3.1} 9.6 \$\frac{14}{3.1}

GUIDE RAIL SHAPES:

MUSHROOM SX 25 (20 x 11.5) 6 M LENGTH STD. COLOUR GREEN DIE: 24 SIDE GUIDE ROUND TOP SX 24 (20 x 6) 50 M COILS STD. COLOUR WHITE DIE: 23



TIVAR® Technology:

TIVAR® materials have a solid performance record in numerous industries such as: mining industry, filling and packaging industry, general mechanical engineering, chemical industry, paper industry, nuclear industry, medical and electrical applications.

With increased resin development we have seen the performance levels of "standard" grades surpass those that were once classified as performance grades 10 years ago. Increases in molecular weight and cross-linking have attributed to the massive increase in performance in all grades and at all levels.

Quadplastic Engineering Plastic Products (QEPP) is the worlds largest manufacturer of UHMWPE and therefore is able to offer a very large range of sheet sizes, thicknesses and grades.

TIVAR® materials offer:

- · Good wear and abrasion resistance
- High impact strength even at low temperatures
- · Excellent chemical resistance
- Low coefficient of friction
- Excellent release properties
- Very low water absorption
- · Moderate mechanical strength, stiffness and creep resistance
- Very good electrical insulating and dielectric properties (except antistatic grades)
- · Physiologically inert (most grades are suitable for food contact).



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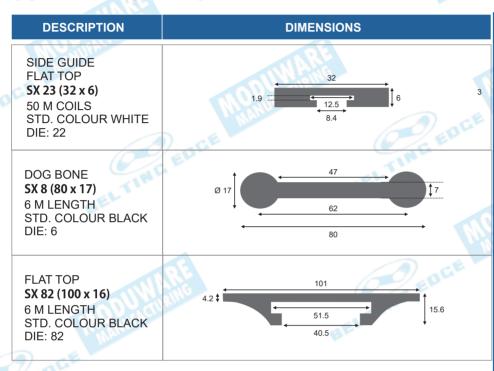


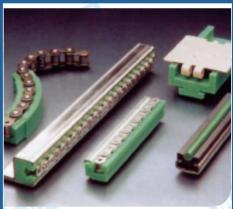




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GUIDE RAIL SHAPES:



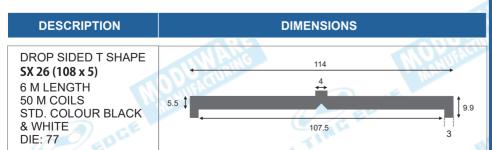


Quadplastic has more than 30 years experience in high performance polymer applications.Our application engineers will analyse your specific requirements and recommend the correct material and engineering designs to enhance/maximise the performance and efficiency of your plant. Cutting edge manufacturing technology and processing centres allow for rapid, flexible and economic production. All TIVAR materials are made with state-of-the-art compression moulding and ram extrusion systems. This ensures unsurpassed economic feasability.

CLIP-ON Z-SHAPES:

DESCRIPTION	DIMENSIONS
U-SECTION SX 20 (21 x 3) 6 M LENGTH 50 M COILS STD. COLOUR GREEN DIE: 18	21

T-SHAPES:



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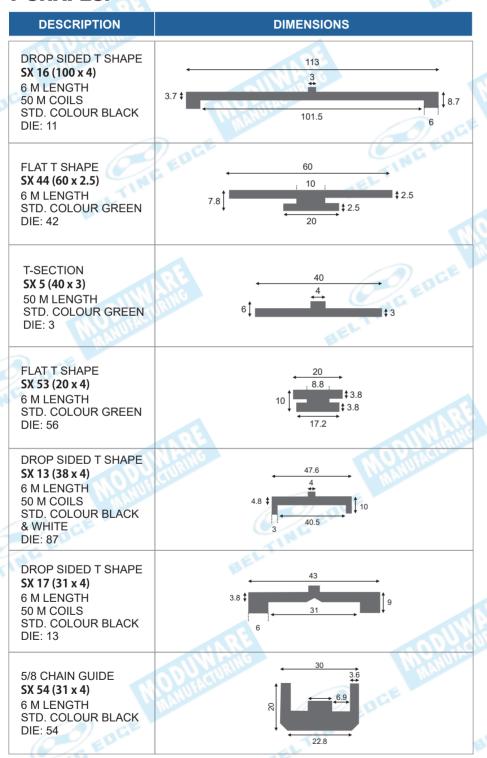






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T-SHAPES:





TIVAR® Surface-Protect: PET Bottle Handling "Anti-Scuffing Grade" - 2000 x 1000 x 10mm up to 30mm. Available on request. Also available in rod for feed screws

TIVAR® "Oil Filled": Enhanced lubrication - FDA Approved. Available on request.

TIVAR® CleanStat: Specially formulated Anti-Static grade that meets EU and FDA regulations. Available on request.

TIVAR® H.O.T (Higher Operating Temperature): Specially formulated to maintain key properties in an extended temperature range of 80°C to 135°C. This grade also meets EU and FDA regulations. Available on request.

TIVAR® Xtended Wear: TIVAR® Xtended Wear features even better sliding and wear properties. Therefore, TIVAR® Xtended Wear reaches excellent service-lives even under extreme operating conditions such as higher speed and aggressive fillers.

TIVAR® Super Plus: TIVAR® SuperPlus is formulated to reflect higher intrinsic viscosity or speed and molecular weight. It can perform in high temperature applications to 107 °C without degradation.

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TUBES:



DIMENSIONS	CODE	LENGTH	COLOURS	DIE
TUBE OD 70 x ID 43	SX 99	1 M LENGTH	STD. COLOUR WHITE	DIE: 113
TUBE OD 82 x ID 57	SX 97	1 M LENGTH	STD. COLOUR WHITE	DIE: 111
TUBE OD 132 x ID 97	SX 59	1 M LENGTH	STD. COLOUR VARIOUS	DIE: 59
TUBE OD 158 x ID 130	SX 47	1 M LENGTH	STD. COLOUR GREEN	DIE: 85

RECTANGULAR (FLA T) WEAR STRIP:

			1 10		AEL A			CIE		
			DIMENSION	S	LENGTH	METHOD	COLOURS	CODE		
		20 x 3	3 mm high	20 mm wide	50 m long	Extruded	GREEN	SX 63		
		25 x 3	3 mm high	25 mm wide	50 m long	Extruded	GREEN	SX 69		
# Height	: D	30 x 3	3 mm high	23 mm wide	50 m long	Extruded	GREEN	SX 66		
I	<u> </u>	40 x 3	3 mm high	40 mm wide	50 m long	Extruded	GREEN	SX 78		
Н		50 x 3	3 mm high	50 mm wide	50 m long	Skived	GREEN	SR 5		
		60 x 3	3 mm high	60 mm wide	50 m long	Skived	GREEN	SR 6		
	OCI	20 x 4	4 mm high	20 mm wide	50 m long	Extruded	GREEN	SX 64		
Ca		25 x 4	4 mm high	25 mm wide	50 m long	Extruded	GREEN	SX 70		
П		30 x 4	4 mm high	30 mm wide	50 m long	Extruded	GREEN	SX 67		
Н	Width	40 x 4	4 mm high	40 mm wide	50 m long	Extruded	GREEN	SX 79		
Н		50 x 4	4 mm high	50 mm wide	50 m long	Skived	GREEN	SR 11		
Н		60 x 4	4 mm high	60 mm wide	50 m long	Skived	GREEN	SR 12		
		20 x 6	6 mm high	20 mm wide	50 m long	Extruded	GREEN	SX 65		
	1	25 x 6	6 mm high	25 mm wide	50 m long	Extruded	GREEN	SX 71		
10		30 x 6	6 mm high	30 mm wide	50 m long	Extruded	GREEN	SX 68		
		40 x 6	6 mm high	40 mm wide	50 m long	Extruded	GREEN	SX 80		
		50 x 6	6 mm high	50 mm wide	50 m long	Skived	GREEN	SR 17		
		60 x 6	6 mm high	60 mm wide	50 m long	Skived	GREEN	SR 18		

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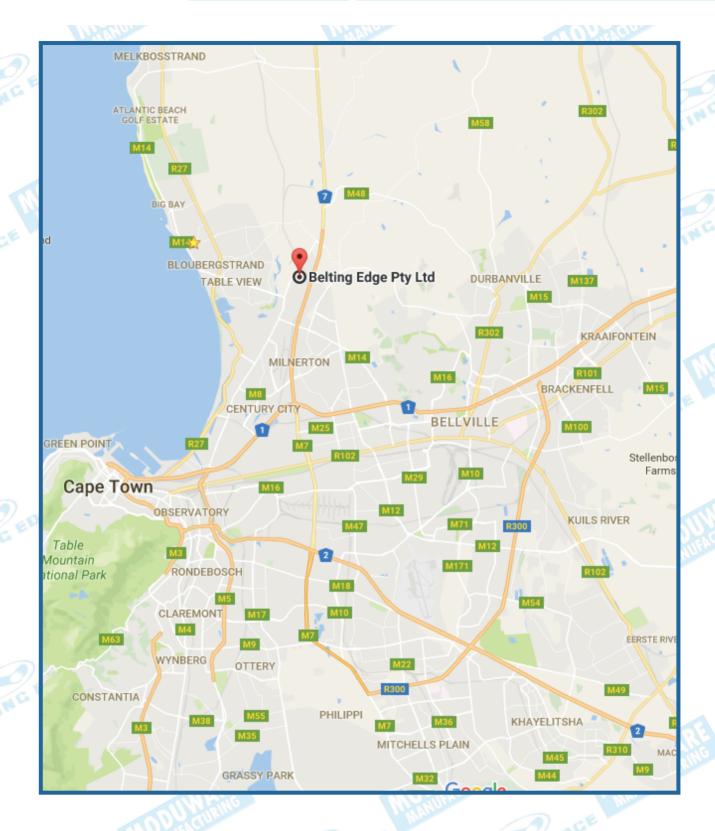


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