



TIVAR™ UHMW-PE

Unit material handling components

TIVAR™ UHMW-PE

Materials and solutions for a wide range of industry segments

Mitsubishi Chemical Advanced Materials South Africa (Pty) Ltd is part of the Engineering Shapes & Solutions Division of Mitsubishi Chemical Group (MCG), headquartered in Tokyo, Japan. Our business focuses on high-performance thermoplastic material and application solutions for a wide range of industry segments.

Our TIVAR™ UHMW-PE grades offer impact resistance, tensile strength at high temperatures, and energy absorption under high stress levels. This catalogue covers the standard range of TIVAR™ UHMW-PE extruded and machined profiles, such as:

- Wear strips
- Sliding supports and guides
- Curved and straight tracks (extruded or machined)

- Our products are used in a broad variety of industries, including:
- Food processing & packaging, bottling
- Mechanics
- Chemical processing
- Pharmaceuticals
- Ceramics
- Glass manufacturing
- Paper manufacturing, etc.





Wear strips

Performance and benefits of extruded and machined guiding and sliding components

Wear strips are used to reduce wear or erosion in mechanical systems, in order to protect your premium manufacturing machinery from abrasion or impact. They are used in challenging environments where abrasion, impact, or heat may shorten the lifetime of your equipment.

The proper selection of wear strips, plates and parts requires an understanding of both application requirements and product specifications. TIVAR™ UHMW-PE wear strips are resistant to the abrasive effects of the processing of bulk goods such as grain, ore, salt, limestone, coal, glass, and fly ash. Anti-static and UV-treated grades are available on request.

- 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, food processing, and many more.

TIVAR™ UHMW-PE

Components & Industrial chain guides for roller chains

TIVAR™ UHMW-PE industrial chain guides are available in TIVAR™ 10-100 which meets regulatory guidelines for food contact during handling and processing, including FDA. TIVAR™'s self-lubricating surface minimizes friction and extends chain life. TIVAR™ industrial chain guides are quiet, reduce noise and are made for use with plastic or metal chains.

Virgin TIVAR™ UHMW-PE 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 80 degrees Celsius. It is ideal for use in industrial freezers, in cryogenic applications and in areas with intermittent temperatures.

TIVAR™ 1000 UHMW-PE is resistant to most chemical attacks and moisture absorption and components are non-stick.

Anti-static and UV-resistant grades are available on request. Kindly enquire with our sales force.

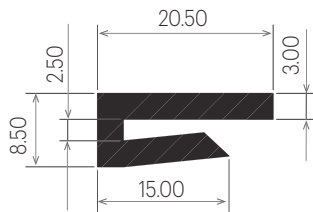
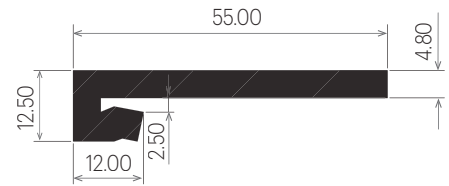
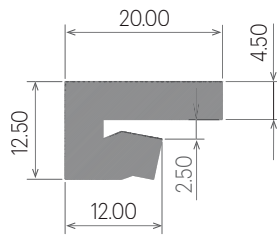
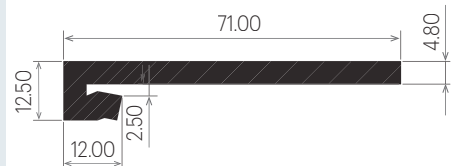
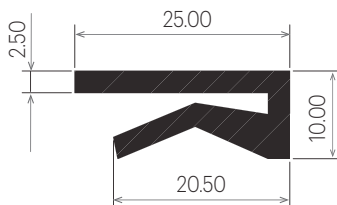
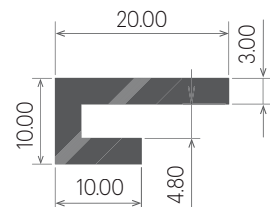
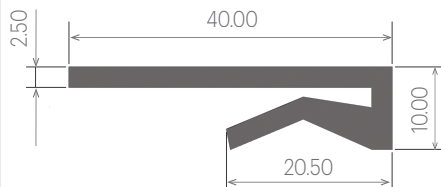
Various colors and additives can be added for identification or for specific needs.

Wear strips are available in a range of TIVAR™ grades to suit your application needs.

Properties & benefits

- Lower drag and noise
- Shock absorbing and self-lubricating
- Very low coefficient of friction
- High impact and bending strength
- Virgin TIVAR™ UHMW-PE is FDA approved
- No moisture absorption
- Bacteria free and hygienic
- Reduced power requirements
- Excellent chemical resistance
- Erosion and abrasion resistance
- Environmentally friendly and recyclable

Clip-on L-shapes

SX 21

SX 28

SX 27

SX 29

SX 74

SX 31

SX 72


Machined and extruded UHMW-PE profiles for chain guides and plastic wear strip applications reduce vibration and friction, offering very high wear resistance. Their superior wear resistance is beneficial to stainless steel wear strips in similar applications as well.

Extruded profiles can be used as belt guides, guide rails and protective edging. They are high impact resistant and will not mark 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 product.

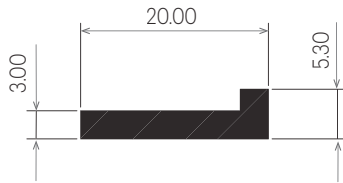
TIVAR™ extruded profiles fight abrasion and corrosion while contributing a low coefficient of friction. The material weighs 1/7 the weight of steel, 1/3 of the weight of aluminum, and out wears abrasion-resistant steel 3 to 1.

Important notes:

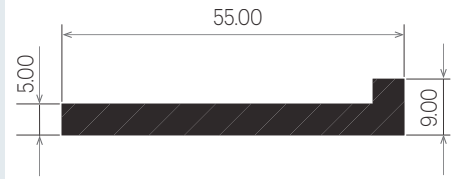
- Drawings are not to scale and sizes are only indicators. For exact sizes please contact our Sales Staff.
- All extrusion dimensions have a tolerance of ± 0.25 mm.
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- Anti-static and UV-grades are available on request.

L-shapes

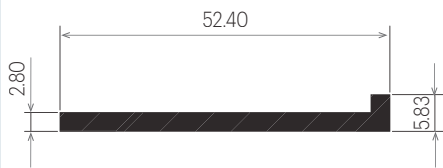
SX 2



SX 14



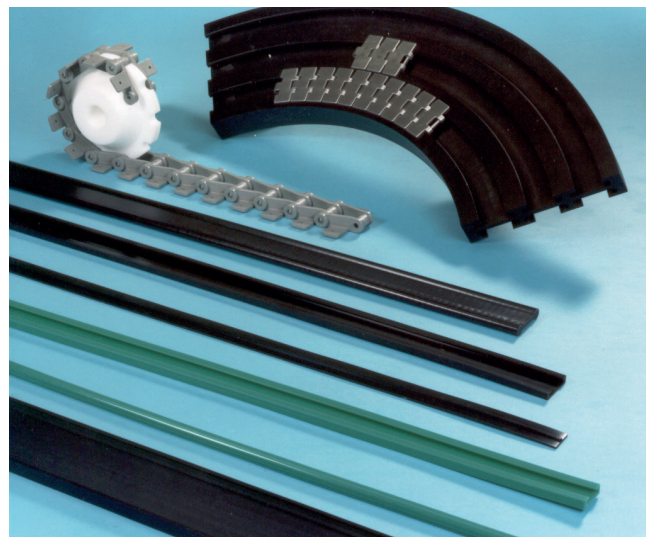
SX 37



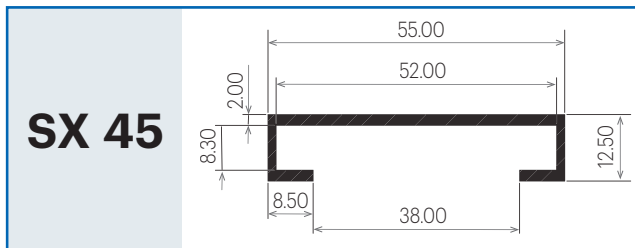
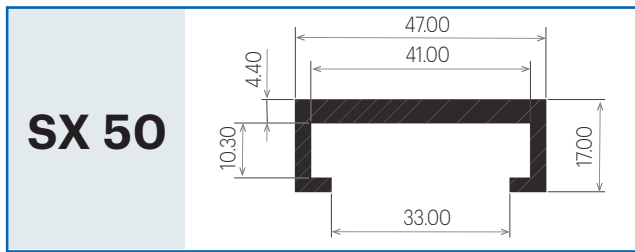
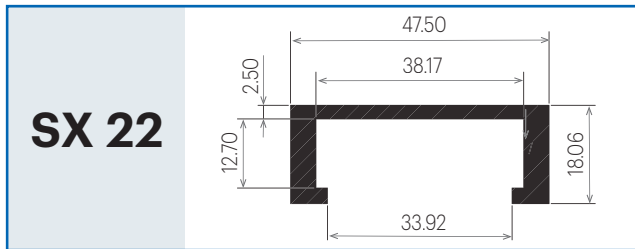
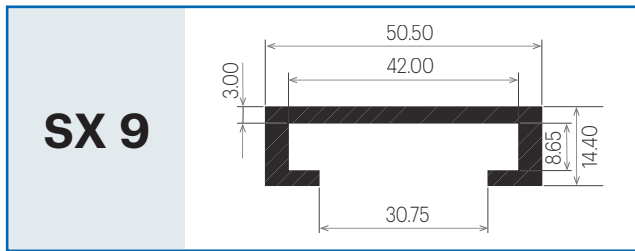
Guiding and sliding components made from TIVAR™ UHMW-PE materials will reliably help moving your objects and products.

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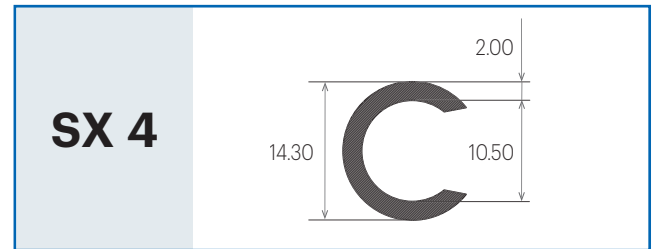
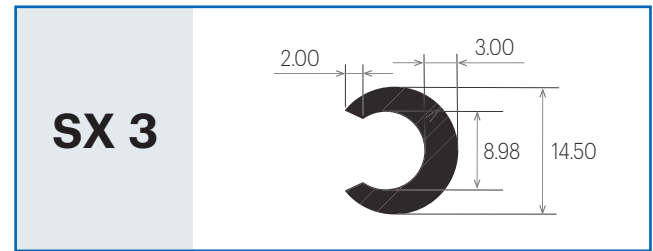
C-sections



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Snap-on C-shapes



UHMW-PE Profiles and Guide Rails

UHMW-PE can be extruded into a limitless variation of custom profiles to suit your needs. Typical TIVAR™ UHMW-PE parts include:

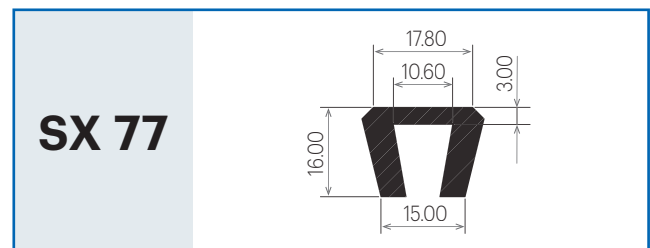
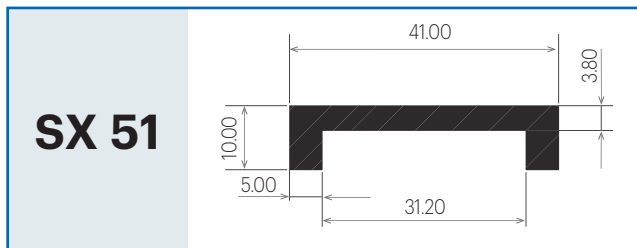
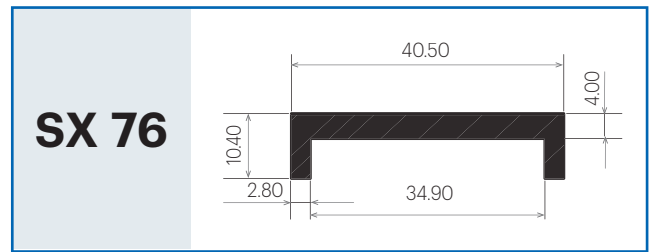
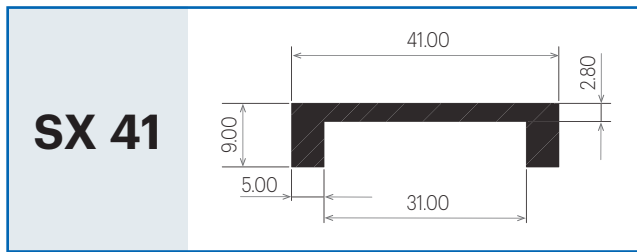
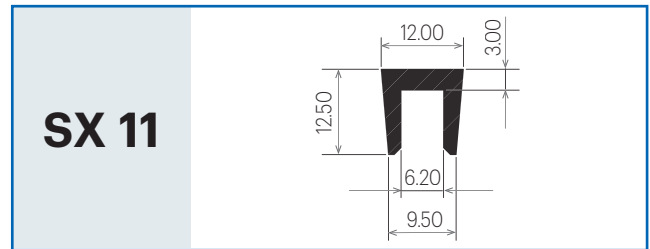
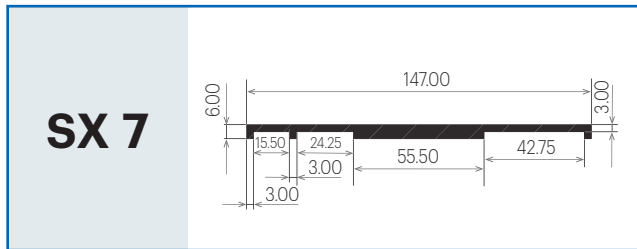
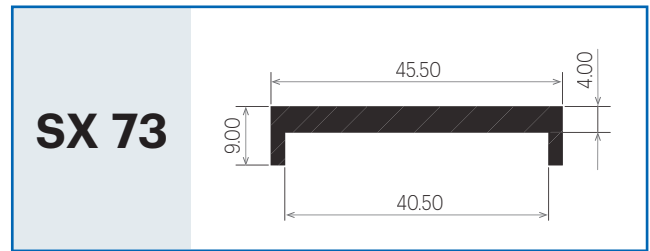
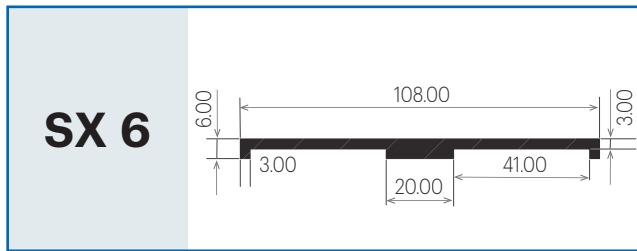
- Guide rails
- Chain guides
- Wear strips
- Pulleys
- Chain tensioners
- Other custom profiles

An excellent general purpose material, TIVAR™ 10-100 (natural) is a cost-effective solution for food handling problems and meets FDA guidelines for food processing and handling.

Mitsubishi Chemical Group also offers custom colors compounded with FDA approved pigments which meet FDA guidelines for food processing and handling.

Whether your business is grain, pharmaceuticals, pizza dough or frozen poultry, TIVAR™ UHMW-PE material will reliably move your objects and products.

U-shapes



TIVAR™ UHMW-PE Standard products

Our TIVAR™ UHMW-PE range of products comprises an extensive range of virgin or partially reprocessed, colored or modified Ultra High Molecular Weight Polyethylene (UHMW-PE) stock shapes, manufactured by compression molding or ram extrusion.

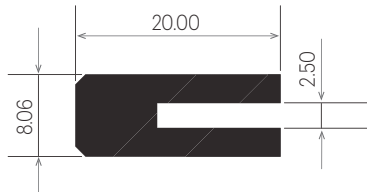
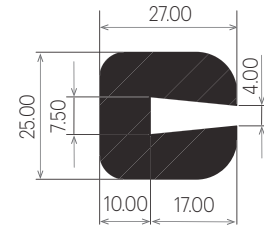
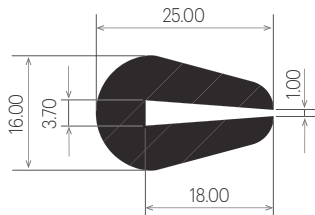
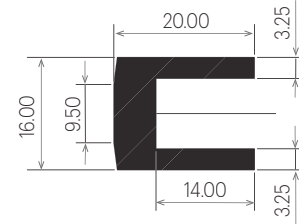
In less demanding applications with respect to wear and impact resistance, PE 500 HMW-PE grade polyethylene may present an economical alternative for the TIVAR™ UHMW-PE standard grades.

TIVAR™ UHMW-PE Proprietary products

While many formulations of TIVAR™ 1000 UHMW-PE have been created to meet specific market requirements, our TIVAR™ UHMW-PE proprietary polyethylene grades offer improvements of various key characteristics:

- Improved sliding and wear properties
- Static dissipative characteristics
- Enhanced release properties
- Improved engineering characteristics

Edge strips

SX 34

SX 57

SX 46

SX 93


TIVAR™ UHMW-PE technology

TIVAR™ UHMW-PE materials have a solid performance record in numerous industries such as:

- Mining
- Filling and packaging
- General mechanical engineering
- Chemical processing
- Paper manufacturing
- Nuclear shielding
- Medical and healthcare
- Electrical and electronics

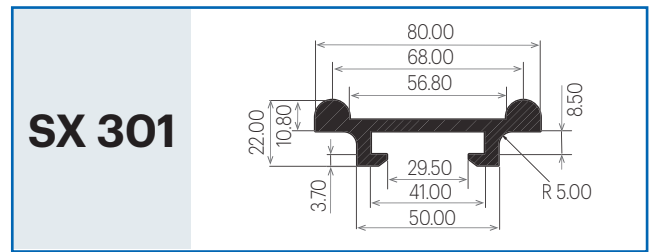
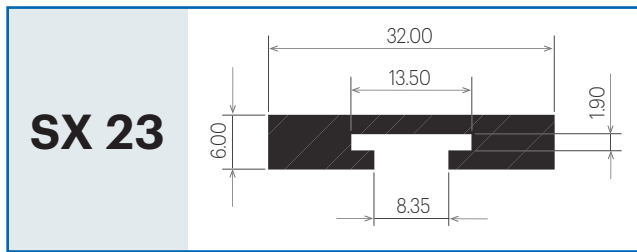
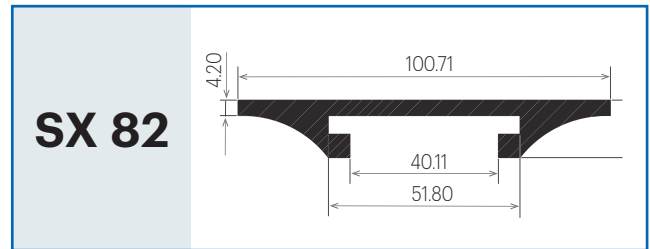
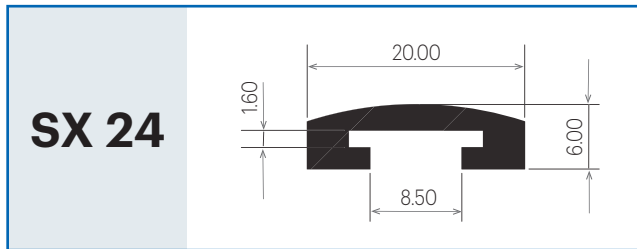
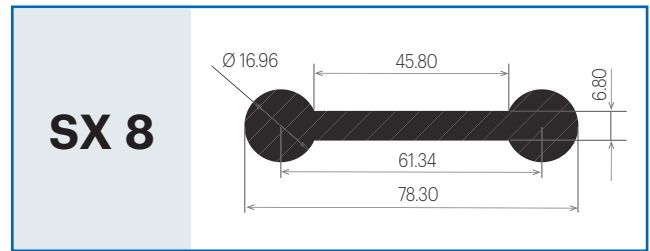
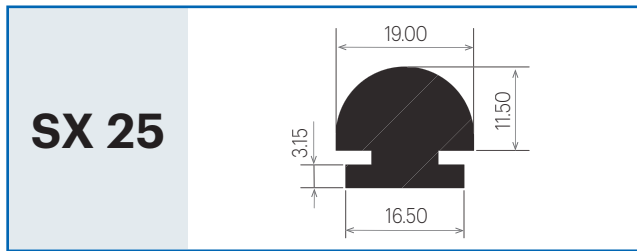
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- Anti-static & UV-Grades are available on request.

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.

Mitsubishi Chemical Group is the worlds' largest manufacturer of UHMW-PE and is therefore able to offer various geometries (sheets, plates, rods, profiles) in a very large range of sizes, thicknesses and grades.

Guide rail shapes



Mitsubishi Chemical Group has more than 80 years of experience in high performance polymer applications.

Our application engineers will analyze your specific requirements and recommend the correct material and engineering designs to enhance/maximize the performance and efficiency of your plant.

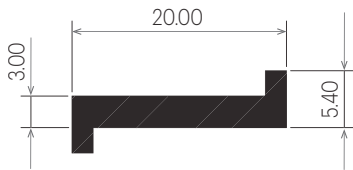
Cutting edge manufacturing technology and processing centers allow for rapid, flexible and economic production. All TIVAR™ UHMW-PE materials are made with state-of-the-art compression molding and ram-extrusion systems. This ensures unsurpassed economic feasibility.

Important notes:

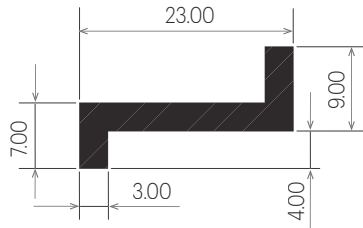
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Z-shapes

SX 1

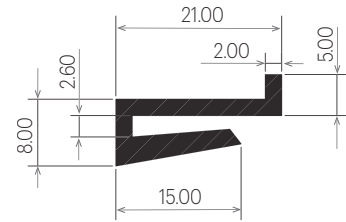


SX 18



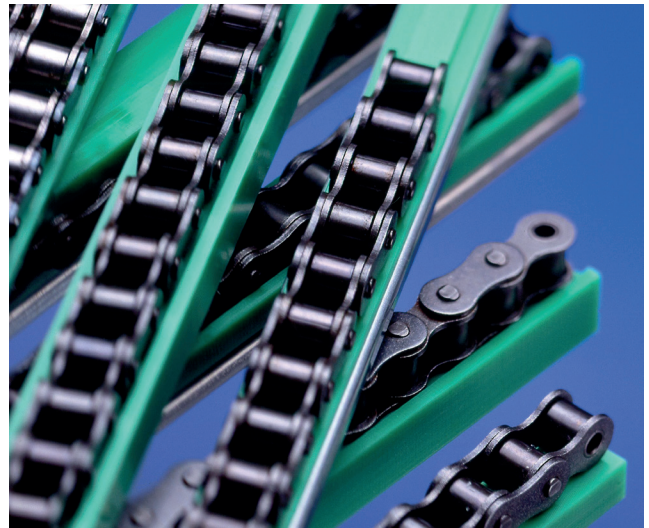
Clip-on Z-shapes

SX 20



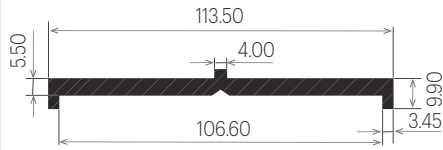
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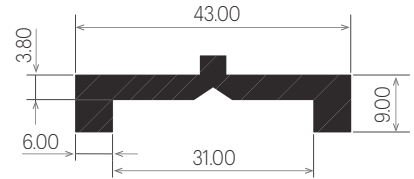


T-shapes

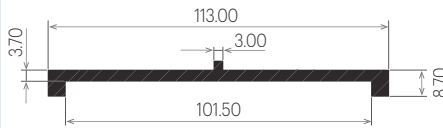
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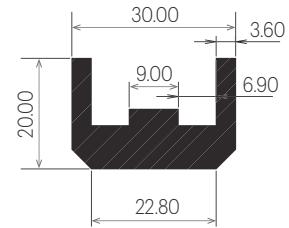
SX 17



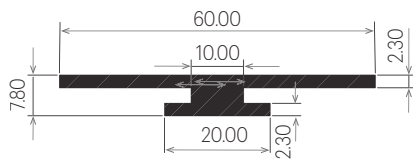
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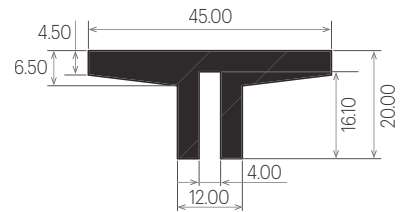
SX 54



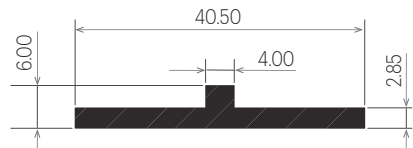
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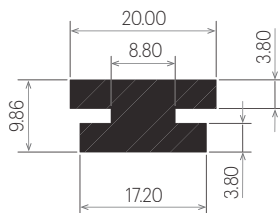
SX 88



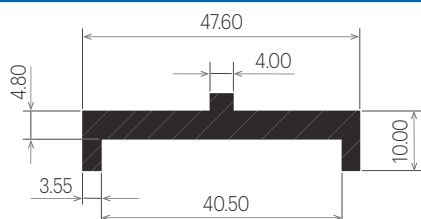
SX 5



SX 53



SX 13



TIVAR™ Ultralene Oil Filled UHMW-PE

- Enhanced lubrication with FDA approval
- Available on request

TIVAR™ Anti-static UHMW-PE

- Specially formulated anti-static grade with FDA regulatory approvals
- Available on request

TIVAR™ H.O.T. UHMW-PE (Higher Operating Temperature)

- Specially formulated to maintain key properties in an extended temperature range of up to 120°C
- Meets FDA food regulation requirements
- Available on request



In industrial machinery and tools, guides are components that enable parts like chains, rollers, belts, and cams to move smoothly and accurately.

By guiding the angle and direction of moving parts, chain guides and wear strips maintain the integrity and alignment of components, thus preventing seizure and undue wear. With their excellent friction and wear behavior and ease of machining, thermoplastics such as nylon (PA) and ultra-high molecular weight polyethylene (UHMW-PE) are ideal guide materials.

Learn more about chain guides and cam guides, belt guides and roller guides, and even more about engineering thermoplastics from Mitsubishi Chemical Group which are found in a range of industrial guide applications with demanding operating conditions.

Visit the following websites to see examples of how our plastic wear components have eliminated slippage, premature wear, and breakages, helping to improve operations for OEMs in diverse industries:

Application examples for chain guides:

www.mcam.com/en/applications/chain-guides

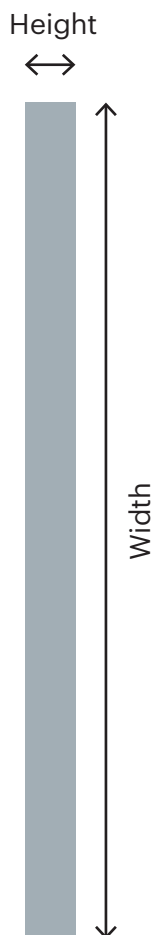


More about wear strips:

www.mcam.com/en/applications/wear-strips



Rectangular (flat) wear strips

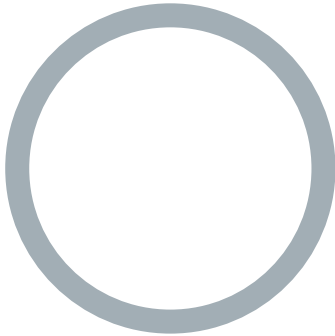


Code	Dimensions	Method	Colour	Length (coils)
SX 63	20 x 3	extruded	green	50m long
SX 69	25 x 3	extruded	green	50m long
SX 66	30 x 3	extruded	green	50m long
SX 78	40 x 3	extruded	green	50m long
SR 5	50 x 3	skived	green	56m long
SR 6	60 x 3	extruded	green	56m long
SX 64	20 x 4	extruded	green	50m long
SX 70	25 x 4	extruded	green	50m long
SX 67	30 x 4	extruded	green	50m long
SX 79	40 x 4	extruded	green	50m long
SR 11	50 x 4	skived	green	42m long
SR 12	60 x 4	skived	green	42m long
SX 65	20 x 6	extruded	green	42m long
SX 71	25 x 6	extruded	green	42m long
SX 68	30 x 6	extruded	green	50m long
SX 80	40 x 6	extruded	green	50m long
SR 17	50 x 6	skived	green	26m long
SR 18	60 x 6	skived	green	26m long

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Tubes



Code	Dimensions	Length	Standard color
SX 99	OD 70 x ID 43	1000 mm	various
SX 97	OD 80 x ID 53	1000 mm	various
SX 59	OD 132 x ID 97	1000 mm	various
SX 47	OD 158 x ID 130	1000 mm	various
SX 100	OD 191 x ID 148	1000 mm	various

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Mitsubishi Chemical Advanced Materials South Africa (Pty) Ltd

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