

## Wear Strip Selection Guide

Kamatics offers multiple types of Wear Strips with each providing unique characteristics to prevent metal-to-metal wear and fretting damage from sliding or rubbing surfaces. Kamatics Wear Strips are designed to be bonded onto surfaces as a protective barrier, and are available in standard sizes or custom cut profiles.

### DESCRIPTION:

**KAron V Wear Strip** consists of standard KAron Grade V self-lubricating bearing material applied on to a thin fiberglass substrate. The KAron V bearing material provides a low sliding friction for wear resistance. KAron V Wear Strip comes with a removable woven nylon peel-ply on the back of the fiberglass to protect the bonding surface from dirt and debris.

**P54 Wear Strip** is a thin sheet self-lubricating bearing material comprised of a resilient thermoset resin matrix with synthetic fibers in a laminate construction for strength and durability. P54 Wear Strip comes with a removable woven nylon peel-ply on one surface to protect the bonding surface from dirt and debris.

**P54 Thin Wear Strip** consists of the same resilient thermoset resin matrix and type of synthetic fibers as P54 with a thinner cross section of 0.010" (0.25mm). P54 Thin Wear Strip comes with a removable woven nylon peel-ply on one surface to protect the bonding surface from dirt and debris.

### APPLICATION INFORMATION:

**KAron V Wear Strip** is designed for surfaces that are subjected to light to medium duty rubbing pressure, or as a fretting resistant barrier. The mating sliding material should be smooth, hard, and a corrosion resistant surface. For optimal KAron V liner performance, the sliding component should have a minimum surface roughness of 16 RMS (0.4  $\mu\text{m}$ ), and be in full contact with the KAron V Wear Strip to avoid line or point loads.

**P54 Wear Strip** is designed for applications where standard off-the-shelf wear resistant plastics fall short in performance. P54 Wear Strip can be used where impact resistance is required, under edge loading, in heavy abrasion applications, and where gross amounts of contaminants can be expected. P54 Wear Strip can operate against rough surfaces and against soft materials such as aluminum or composites.

**P54 Thin Wear Strip** is ideal for applications that require impact, fretting, or abrasion resistance along a thin cross section. The mating sliding material should be smooth, hard, and a corrosion resistant surface. For optimal P54 Thin Wear Strip performance, the sliding component should have a minimum surface roughness of 16 RMS (0.4  $\mu\text{m}$ ), and be in full contact with the P54 Thin Wear Strip to avoid line or point loads.

**Kamatics Wear Strips** are flexible and can conform to the contour of a mounting surface – please consult Kamatics Engineering for application design recommendations.

## PHYSICAL PROPERTIES<sup>1</sup>:

	<b>KAron V Wear Strip</b>	<b>P54 Wear Strip</b>	<b>P54 Thin Wear Strip</b>
<b>Coefficient of Friction</b>	0.04 – 0.08	0.06 – 0.08	0.09 - 0.15
<b>Max Static Load</b>	30,000 psi (207 MPa)	50,000 psi (345 MPa)	35,000 psi (241 MPa)
<b>Max Dynamic Load</b>	10,000 psi (69 MPa)	20,000 psi (138 MPa)	10,000 psi (69 MPa)
<b>Operating Temperature</b>	-100°F to 250°F (-73°C to 120°C)	-65°F to 250°F (-54°C to 120°C)	-65°F to 250°F (-54°C to 120°C)

**Table 1**

<sup>1</sup> Above reported values based on wear strip only. Physical properties in service will be largely dependent upon operating conditions, the mating surface, the adhesive bond integrity, the substrate material, and surface preparation of the substrate.

## FLUID COMPATIBILITY:

Kamatics Wear Strips are not affected by the following chemicals: Phosphate Ester Hydraulic Fluid (Skydrol), MIL-T-5624 Turbine Fuel Grade JP-4, MIL-PRF-7808 Lubricating Oil, MIL-PRF-5606 Hydraulic Oil, MIL-A-8243 Anti-Icing Fluid, MIL-H-83282 Hydraulic Fluid, Fresh Water, Salt Water.

## ENVIRONMENTAL TESTING:

Kamatics KAron V, P54, and P54 Thin performed very well in independent laboratory testing. The methods used for the testing were MIL-STD-810F Environmental Engineering Considerations and Telecordia General Requirements. When subjected to tests for High and Low Temperatures, Solar Radiation, Blowing Rain, Fungus, Humidity, Salt Fog, Blowing Dust, Functional Shock, and Ozone Resistance, the Kamatics wear strip material test samples showed no signs of damage or degradation.

## ORDERING INFORMATION:

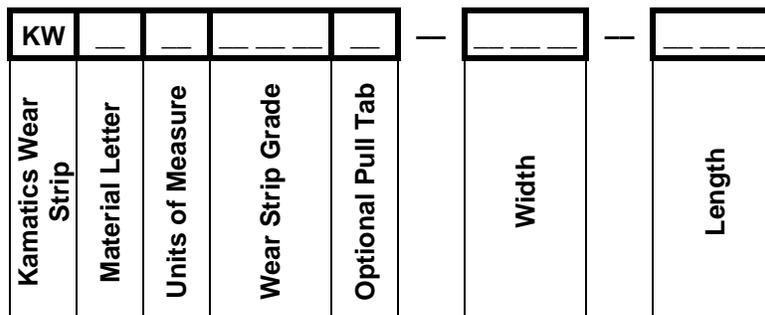
Standard Kamatics Karon V Wear Strip, P54 Wear Strip, and P54 Thin Wear Strip are available in flat sheets, strips and custom shapes. For washers of various sizes, and custom cut shapes and profiles, contact Kamatics for ordering information and size limitations. Wear Strip bearing materials are available in the following grades:

Wear Strip Type	Material Letter	Wear Strip Grade	Product Description	Nominal Thickness, inches (mm)
KAron V Wear Strip	S	100	Light Duty	0.018 (0.46)
		200	Medium Duty	0.036 (0.91)
P54 Wear Strip	P	020	Light Duty	0.020 (0.5)
		032	Medium Duty	0.032 (0.8)
		060	Heavy Duty	0.060 (1.5)
		120	Plate Stock	0.120 (3.0)
P54 Thin Wear Strip	PT	010	P54 Thin	0.010 (0.25)

Table 2

## STANDARD PART NUMBERING SYSTEM:

For standard cut strip dimension parts, Kamatics uses the following part numbering system:



- Material Letter** = **S** for KAron V Wear Strip  
**P** for P54 Wear Strip  
**PT** for P54 Thin Wear Strip
- Unit of Measure** = **(BLANK)** for English units  
**M** for Metric units
- Wear Strip Grade** = See Table 2 above
- Optional Pull Tab** = **(BLANK)** for no Pull Tab  
**T** for optional Pull Tab – KAron V Wear Strip ONLY – 3/8" Pull Tab for easy removal of peel-ply backing
- Width\*\*** = English units: width in 1/8" increments, example 024 = 3" wide  
Metric units: width in 5mm increments, example 020 = 100mm wide
- Length\*\*** = English units: length in 1/4" increments, example 096 = 24" long  
Metric units: length in 10mm increments, example 050 = 500mm long

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Engineered Performance

## Part Number Examples:

KWS100T-016-096 = KAron V Light Duty Wear Strip, 2" x 24", with pull tab

KWSM200-007-095 = KAron V Medium Duty Wear Strip, 35mm x 950mm, no pull tab

KWP060-096-096 = P54 Heavy Duty Wear Strip, 12" x 24"

KWPT010-032-048 = P54 Thin Wear Strip, 4" x 12"

**\*\*Contact Kamatics for size limitations**

## BONDING PROCEDURE:

**KAron V Wear Strip** comes with a removable woven nylon peel-ply on the back of the fiberglass to protect the bonding surface from dirt and debris. When the pull tab (T) option is called out in the part number, a 3/8" (9.5mm) long breakaway tab will be provided for easy removal of the peel ply backing. With the peel-ply removed and the back surface exposed, the KAron V Wear Strip is prepared and ready for bonding on to a suitable surface.

**P54 Wear Strip** comes with a removable woven nylon peel-ply on one surface to protect the bonding surface from dirt and debris. With the peel-ply removed and the back surface exposed, the P54 Wear Strip is prepared and ready for bonding on to a suitable surface.

**P54 Thin Wear Strip** comes with a removable woven nylon peel-ply on one surface to protect the bonding surface from dirt and debris. With the peel-ply removed and the back surface exposed, the P54 Thin Wear Strip is prepared and ready for bonding on to a suitable surface.

Standard room-temperature curing structural epoxy adhesives are recommended for bonding Kamatics Wear Strip material, such as Hysol EA9309 (Henkel Loctite Aerospace), Hysol EA9396 (Henkel Loctite Aerospace), Hysol EA9460 (Henkel Loctite Industrial), Scotchweld 460 (3M Co.), and Araldite 2011 (Huntsman). Follow the manufacturer's suggested procedures for maximum adhesion to the mating surface. The mating adherent surface should be roughened to a finish of greater than 63 RMS (1.6  $\mu\text{m}$ ), and be cleaned with an appropriate solvent (e.g. isopropyl alcohol) immediately prior to bonding.