

SEPT  
2011

 Fenner Drives®



**Trackstar**®  
UHMW BELT & CHAIN GUIDES

# The Trackstar<sup>®</sup> Advantage

## UHMW BELT & CHAIN GUIDES

*Fight friction and reduce costs with long-wearing Trackstar UHMW Belt and Chain Guides. Available from stock, Fenner Drives offers the widest range of standard profiles for use in guiding belts, chain and cables in industry. Standard crowned and flat versions are also available for use in guide rail systems.*

- Wide variety of standard products in stock ready to ship today!
- Two-piece guide and channel design simplifies installation and replacement.

## Trackstar Material

*Our Trackstar Guides are produced using only the highest quality virgin black UHMW-PE material to ensure minimum friction and maximum wear resistance.*

## Trackstar Physical Properties

	ASTM Test	UHMW-PE
Density (gm/cm <sup>3</sup> )	D792	.930 – .936
Tensile Strength at yield (psi at 73°F)	D638	3100
Elongation at break (% at 73°F)	D638	350
Relative volumetric abrasion loss*	N/A	100
Coefficient of friction on steel 73°F Static	N/A	.15 – .20
Coefficient of friction on steel 73°F Dynamic	N/A	.10 – .20
Hardness 73°F (Shore D)	D785	62 – 66
Coefficient of linear thermal expansion (in/in/°F)	D696	$1.1 \times 10^{-4}$
Continuous Service Temp in air (max) (°F)	D696	180
Volume Resistivity (Ohm/cm)	D257	$>10^{15}$

## Trackstar Chemical Resistance

	UHMW-PE
Acids, Weak	S
Acids, Strong	L
Alkalies, Weak	S
Alkalies, Strong	S
Hydrocarbons, Aromatic	L
Hydrocarbons, Aliphatic	S
Ketones	S
Ethers	S
Esters	S
Alcohols	S
Inorganic Salt Solutions	S
Continuous Sunlight	U

S – Suitable  
L – Limited Suitability  
U – Unsuitable

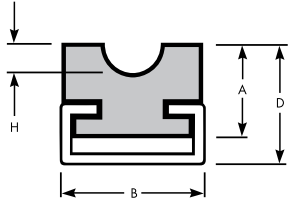
Disclaimer: Fenner Drives accepts no responsibility nor makes any claims regarding suitability for a particular use or purpose.

For assistance, contact Fenner Drives Applications Engineering group at 1.800.243.3374 or email [ae@fennerdrives.com](mailto:ae@fennerdrives.com)

\* Industry standard testing method using slurry of 60% aluminum oxide and 40% water at a rotation speed of 1750 rpm for two hours. A lower number indicates better abrasion resistance.

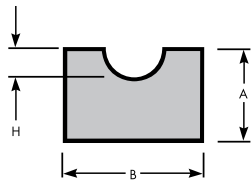
# Product Specifications

## ROUND BELT GUIDE WITH MOUNTING CHANNEL



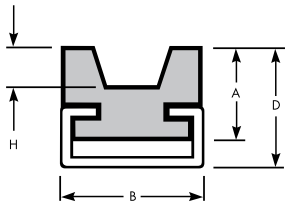
Belt Diameter	Part # Galv. Channel	Part # SS Channel	Part # Alum. Channel	Channel Type	A	B	D	H
3/16"	GB1006-3G	GB1006-3S	GB1006-3A	C3	0.59	0.79	0.80	0.13
1/4"	GB1000-3G	GB1000-3S	GB1000-3A	C3	0.59	0.79	0.80	0.16
5/16"	GB1001-3G	GB1001-3S	GB1001-3A	C3	0.59	0.79	0.80	0.19
3/8"	GB1002-5G	GB1002-5S		C5	0.59	1.10	0.84	0.22
1/2"	GB1003-5G	GB1003-5S		C5	0.59	1.10	0.84	0.28
9/16"	GB1004-5G	GB1004-5S		C5	0.59	1.10	0.84	0.32
5/8"	GB1005-5G	GB1005-5S		C5	0.71	1.10	0.94	0.35
3/4"	GB1007-5G	GB1007-5S		C5	1.02	1.10	1.26	0.41

## ROUND BELT GUIDE



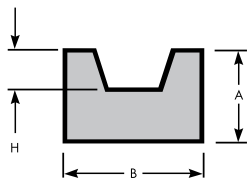
Belt Diameter	Part #	A	B	H
3/16"	NC1006	0.38	0.75	0.13
1/4"	NC1000	0.38	0.75	0.16
5/16"	NC1001	0.50	0.75	0.19
3/8"	NC1002	0.63	1.00	0.22
1/2"	NC1003	0.75	1.25	0.28
9/16"	NC1004	1.00	1.25	0.32
5/8"	NC1005	1.00	1.25	0.35
3/4"	NC1007	1.00	1.50	0.41

## V-BELT GUIDE WITH MOUNTING CHANNEL



V-Belt Size	Part # Galv. Channel	Part # SS Channel	Part # Alum. Channel	Channel Type	A	B	D	H
3L	GB2000-3G	GB2000-3S	GB2000-3A	C3	0.59	0.79	0.80	0.16
A/4L	GB2001-3G	GB2001-3S	GB2001-3A	C3	0.59	0.79	0.80	0.20
B/5L	GB2002-5G	GB2002-5S		C5	0.59	1.10	0.84	0.29
C	GB2003-5G	GB2003-5S		C5	0.71	1.10	0.96	0.40
A Twin	GB2006-5G	GB2006-5S		C5	0.59	1.42	0.84	0.20

## V-BELT GUIDE

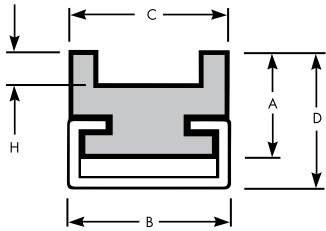


V-Belt Size	Part #	A	B	H
3L	NC2000	0.38	0.79	0.16
A/4L	NC2001	0.50	0.79	0.20
B/5L	NC2002	0.63	1.10	0.29
C	NC2003	0.75	1.10	0.40
A Twin	NC2006	0.59	1.42	0.20

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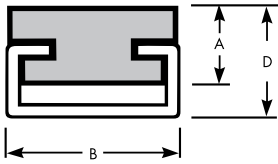
# Product Specifications

## FLAT BELT GUIDE WITH MOUNTING CHANNEL



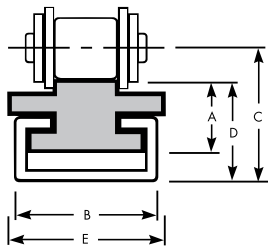
Belt Width	Part # Galv. Channel	Part # SS Channel	Channel Type	A	B	C	D	H
3/4"	GB3000-5G	GB3000-5S	C5	0.71	1.10	1.10	0.95	0.25
1"	GB3001-5G	GB3001-5S	C5	0.71	1.10	1.34	0.95	0.25

## FLAT GUIDE WITH MOUNTING CHANNEL



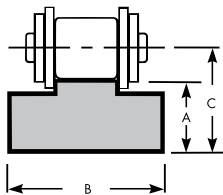
Part # Galv. Channel	Part # SS Channel	Part # Alum. Channel	Channel Type	A	B	D
GR2001-3G	GR2001-3S	GR2001-3A	C3	0.39	0.79	0.60
GR2002-5G	GR2002-5S		C5	0.39	1.10	0.64
GR2003-9G	GR2003-9S		C9	0.59	1.50	0.96

## SINGLE CHAIN GUIDE WITH MOUNTING CHANNEL



ANSI Chain	Part # Galv. Channel	Part # SS Channel	Part # Alum. Channel	Channel Type	A	B	C	D	E
25-1	GC1025-3G	GC1025-3S	GC1025-3A	C3	0.59	0.79	0.86	0.80	0.79
35-1	GC1035-3G	GC1035-3S	GC1035-3A	C3	0.59	0.79	0.90	0.80	0.79
40-1	GC1040-3G	GC1040-3S	GC1040-3A	C3	0.59	0.79	0.95	0.80	0.79
50-1	GC1050-3G	GC1050-3S	GC1050-3A	C3	0.59	0.79	1.00	0.80	0.79
60-1	GC1060-5G	GC1060-5S		C5	0.59	1.10	1.06	0.83	1.10
80-1	GC1080-5G	GC1080-5S		C5	0.71	1.10	1.26	0.95	1.34
81X	GC1081-5G	GC1081-5S		C5	1.25	1.10	1.95	1.50	1.75
100-1	GC1100-9G	GC1100-9S		C9	0.79	1.50	1.54	1.16	1.75
120-1	GC1120-9G	GC1120-9S		C9	0.79	1.50	1.60	1.16	2.12

## SINGLE CHAIN GUIDE

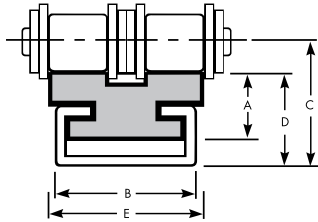


ANSI Chain	Part #	A	B	C
25-1	NC1025	0.59	0.79	0.66
35-1	NC1035	0.59	0.79	0.69
40-1	NC1040	0.59	0.79	0.75
50-1	NC1050	0.59	0.79	0.79
60-1	NC1060	0.59	1.10	0.82
80-1	NC1080	0.71	1.34	1.02
81X	NC1081	1.00	1.75	1.45
100-1	NC1100	1.00	1.61	1.38
120-1	NC1120	1.25	2.01	1.69
140-1	NC1140	1.50	2.17	2.00
160-1	NC1160	1.50	2.61	2.06
180-1	NC1180	1.50	2.88	2.20

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# Product Specifications

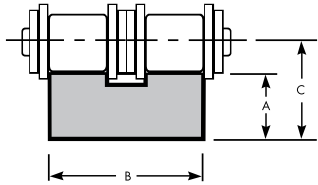
## DOUBLE CHAIN GUIDE WITH MOUNTING CHANNEL



ANSI Chain	Part # Galv. Channel	Part # SS Channel	Part # Alum. Channel	Channel Type	A	B	C	D	E
25-2	GC2025-3G	GC2025-3S	GC2025-3A	C3	0.44	0.79	0.72	0.65	0.79
35-2	GC2035-3G	GC2035-3S	GC2035-3A	C3	0.59	0.79	0.89	0.80	0.57*
40-2	GC2040-3G	GC2040-3S	GC2040-3A	C3	0.59	0.79	0.95	0.80	0.85
50-2	GC2050-5G	GC2050-5S		C5	0.59	1.10	1.03	0.84	1.06
60-2	GC2060-5G	GC2060-5S		C5	0.59	1.10	1.06	0.84	1.34
80-2	GC2080-9G	GC2080-9S		C9	0.79	1.50	1.47	1.16	1.75
100-2	GC2100-9G	GC2100-9S		C9	0.79	1.50	1.54	1.16	2.12

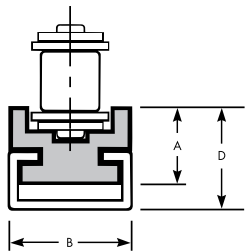
\*Width smaller than channel.

## DOUBLE CHAIN GUIDE



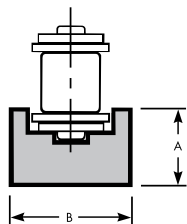
ANSI Chain	Part #	A	B	C
25-2	NC2025	0.59	0.78	0.66
35-2	NC2035	0.59	0.78	0.69
40-2	NC2040	0.85	0.85	1.00
50-2	NC2050	1.07	1.07	1.27
60-2	NC2060	1.34	1.34	1.57
80-2	NC2080	1.75	1.75	2.06

## SINGLE CHAIN GUIDE WITH MOUNTING CHANNEL



ANSI Chain	Part # Galv. Channel	Part# SS Channel	Part # Alum. Channel	Channel Type	A	B	D
25-1	GC3525-3G	GC3525-3S	GC3525-3A	C3	0.59	0.79	0.80
35-1	GC3535-3G	GC3535-3S	GC3535-3A	C3	0.59	0.79	0.80
40-1	GC3540-3G	GC3540-3S	GC3540-3A	C3	0.59	0.79	0.80
50-1	GC3550-5G	GC3550-5S		C5	0.71	1.10	0.96
60-1	GC3560-5G	GC3560-5S		C5	0.71	1.10	0.96
80-1	GC3580-9G	GC3580-9S		C9	0.79	1.50	1.16

## SINGLE CHAIN GUIDE

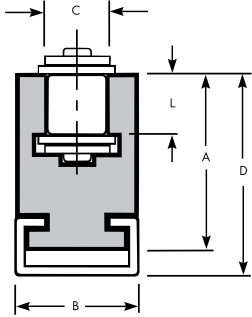


ANSI Chain	Part #	A	B
25-1	NC3525	0.59	0.78
35-1	NC3535	0.59	0.78
40-1	NC3540	0.59	0.78
50-1	NC3550	0.71	1.10
60-1	NC3560	0.71	1.10
80-1	NC3580	0.79	1.50

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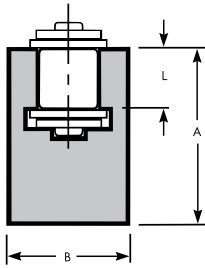
# Product Specifications

## SINGLE CHAIN GUIDE WITH MOUNTING CHANNEL



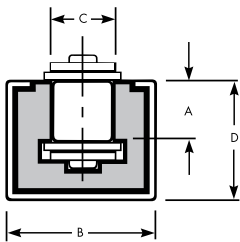
ANSI Chain	Part # Galv. Channel	Part # SS Channel	Part # Alum. Channel	Channel Type	A	B	C	D	L
25-1	GC3625-3G	GC3625-3S	GC3625-3A	C3	0.80	0.79	0.15	1.01	0.11
35-1	GC3635-3G	GC3635-3S	GC3635-3A	C3	0.80	0.79	0.22	1.01	0.17
40-1	GC3640-5G	GC3640-5S		C5	1.01	1.10	0.33	1.25	0.29
50-1	GC3650-9G	GC3650-9S		C9	1.24	1.50	0.42	1.61	0.35
60-1	GC3660-9G	GC3660-9S		C9	1.66	1.50	0.50	2.03	0.47
80-1	GC3680-9G	GC3680-9S		C9	2.26	1.50	0.65	2.63	0.60

## SINGLE CHAIN GUIDE



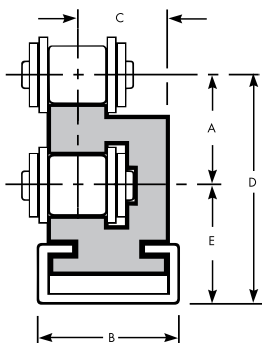
ANSI Chain	Part #	A	B	L
25-1	NC3625	0.88	0.79	0.11
35-1	NC3635	0.88	0.79	0.17
40-1	NC3640	1.05	1.10	0.29
50-1	NC3650	1.43	1.50	0.35
60-1	NC3660	1.85	1.50	0.47

## SINGLE CHAIN GUIDE WITH MOUNTING CHANNEL



ANSI Chain	Part # Galv. Channel	Part # SS Channel	Channel Type	A	B	C	D
25-1	GS1025-9G	GS1025-9S	C9	0.11	1.50	0.15	0.71
35-1	GS1035-0G	GS1035-0S	C10	0.17	1.19	0.22	0.94
40-1	GS1040-0G	GS1040-0S	C10	0.29	1.19	0.33	0.94
50-1	GS1050-0G	GS1050-0S	C10	0.35	1.19	0.42	0.94
60-1	GS1060-0G	GS1060-0S	C10	0.47	1.19	0.49	1.05
80-1	GS1080-1G	GS1080-1S	C11	0.60	1.77	0.65	1.58
100-1	GS1100-1G	GS1100-1S	C11	0.73	1.77	0.78	1.58

## SINGLE CHAIN GUIDE WITH MOUNTING CHANNEL

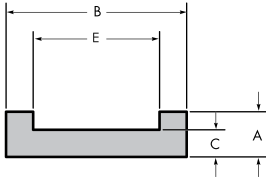


ANSI Chain	Part # Galv. Channel	Part # SS Channel	Part # Alum. Channel	Channel Type	A	B	C	D	E
35-1	GT1035-3G	GT1035-3S	GT1035-3A	C3	0.67	0.79	0.71	1.24	0.57
40-1	GT1040-3G	GT1040-3S	GT1040-3A	C3	0.59	0.79	0.65	1.16	0.57
50-1	GT1050-3G	GT1050-3S	GT1050-3A	C3	0.77	0.79	0.62	1.46	0.69
60-1	GT1060-5G	GT1060-5S		C5	0.89	1.11	0.87	1.60	0.70

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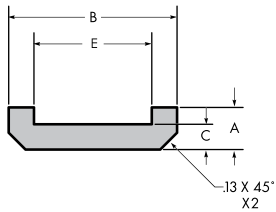
# Double Pitch Chain Guides

## STYLE A



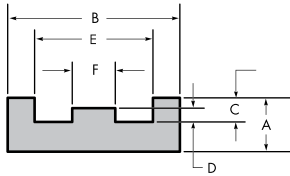
Part #	Chain #	A	B	C	D	E	F
DPA2040	2040	0.31	1.25	0.19	-	0.88	-
DPA2050	2050	0.38	1.25	0.22	-	1.00	-
DPA2060	2060	0.38	1.50	0.19	-	1.25	-
DPA2080	2080	0.50	2.00	0.25	-	1.56	-
DPA2100	2100	0.63	2.25	0.31	-	1.88	-
DPA2120	2120	0.63	2.75	0.25	-	2.25	-
DPA2081	81X	1.00	3.00	0.38	-	2.50	-

## STYLE B



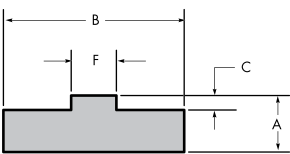
Part #	Chain #	A	B	C	D	E	F
DPB2040	2040	0.31	1.25	0.19	-	0.88	-
DPB2050	2050	0.38	1.25	0.22	-	1.00	-
DPB2060	2060	0.38	1.50	0.19	-	1.25	-
DPB2080	2080	0.50	2.00	0.25	-	1.56	-
DPB2100	2100	0.63	2.25	0.31	-	1.88	-
DPB2120	2120	0.63	2.75	0.25	-	2.25	-

## STYLE C



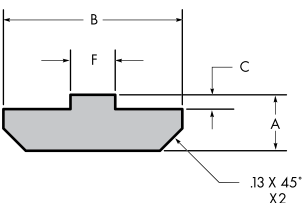
Part #	Chain #	A	B	C	D	E	F
DPC2040	2040	0.31	1.00	0.14	0.08	0.69	0.25
DPC2050	2050	0.38	1.25	0.19	0.10	0.81	0.31
DPC2060	2060	0.50	1.50	0.21	0.12	1.13	0.44
DPC2080	2080	0.50	2.00	0.25	0.13	1.44	0.56

## STYLE D



Part #	Chain #	A	B	C	D	E	F
DPD2040	2040	0.31	1.00	0.08	-	-	0.25
DPD2050	2050	0.31	1.25	0.10	-	-	0.31
DPD2060	2060	0.31	1.25	0.12	-	-	0.44
DPD2080	2080	0.38	1.50	0.13	-	-	0.56
DPD2100	2100	0.50	2.00	0.21	-	-	0.69
DPD2120	2120	0.50	2.25	0.26	-	-	0.94

## STYLE E



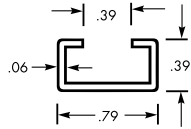
Part #	Chain #	A	B	C	D	E	F
DPE2040	2040	0.31	1.00	0.08	-	-	0.25
DPE2050	2050	0.31	1.25	0.10	-	-	0.31
DPE2060	2060	0.31	1.25	0.12	-	-	0.44
DPE2080	2080	0.38	1.50	0.13	-	-	0.56
DPE2100	2100	0.50	2.00	0.21	-	-	0.69
DPE2120	2120	0.50	2.25	0.26	-	-	0.94

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# Mounting Channels

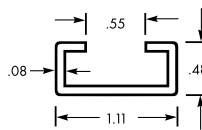
Installation is simple with standard 120" C channels in galvanized steel, 304 stainless steel, or anodized aluminum (C3 only). Either tack weld or bolt into place with optional mounting holes.

## C3 MOUNTING CHANNEL



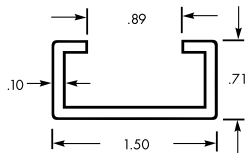
PART NO.	MATERIAL	MOUNTING HOLES	CENTERS
MC 0500	Anodized Aluminum	None	-
MC 0501	Anodized Aluminum	.20 Diameter	12 inch
MC 1000	Galvanized Steel	None	-
MC 1001	Galvanized Steel	.20 Diameter	12 inch
MC 1500	#304 Stainless Steel	None	-
MC 1501	#304 Stainless Steel	.20 Diameter	12 inch

## C5 MOUNTING CHANNEL



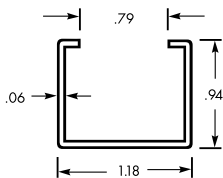
PART NO.	MATERIAL	MOUNTING HOLES	CENTERS
MC 2000	Galvanized Steel	None	-
MC 2001	Galvanized Steel	.20 Diameter	12 inch
MC 2500	#304 Stainless Steel	None	-
MC 2501	#304 Stainless Steel	.20 Diameter	12 inch

## C9 MOUNTING CHANNEL



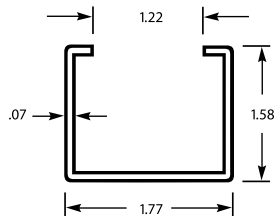
PART NO.	MATERIAL	MOUNTING HOLES	CENTERS
MC 3000	Galvanized Steel	None	-
MC 3001	Galvanized Steel	.20 Diameter	12 inch
MC 3002	Galvanized Steel	.26 Diameter	12 inch
MC 3500	#304 Stainless Steel	None	-
MC 3501	#304 Stainless Steel	.20 Diameter	12 inch

## C10 MOUNTING CHANNEL



PART NO.	MATERIAL	MOUNTING HOLES	CENTERS
MC 4000	Galvanized Steel	None	-
MC 4001	Galvanized Steel	.20 Diameter	12 inch
MC 4500	#304 Stainless Steel	None	-
MC 4501	#304 Stainless Steel	.20 Diameter	12 inch

## C11 MOUNTING CHANNEL



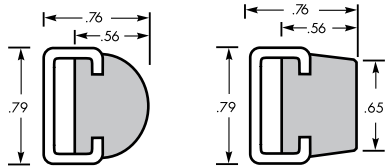
PART NO.	MATERIAL	MOUNTING HOLES	CENTERS
MC 5000	Galvanized Steel	None	-
MC 5500	#304 Stainless Steel	None	-



# Guide Rails

The “C” channel design features a two-piece construction for quick and easy replacement of UHMW inserts. “C” channel guide rails are available in Black or FDA/USDA approved White.

## C3 GUIDE RAILS



PROFILE	COLOR	Stainless Steel Channel	Aluminum Channel	Galvanized Channel
Crowned	Black	GR1000-3S120.00	GR1000-3A120.00	GR1000-3G120.00
Crowned	White	GR1001-3S120.00	GR1001-3A120.00	GR1001-3G120.00
Flat	Black	GR1100-3S120.00	GR1100-3A120.00	GR1100-3G120.00
Flat	White	GR1101-3S120.00	GR1101-3A120.00	GR1101-3G120.00

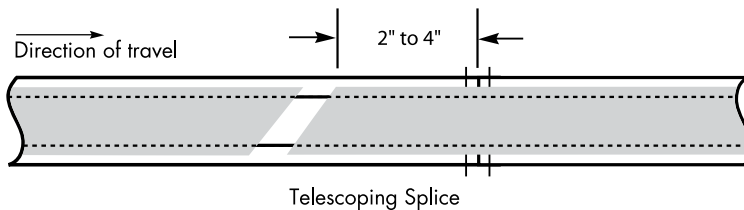
## Additional Information

### Installation Tips

Installation of standard 120" C channel in galvanized, 304 stainless steel or anodized aluminum is an easy, cost-effective process. Simply mechanically fasten the channel to the mounting surface with screws. The other option is to tack weld the channel to the mounting surface.

### Telescoping Splice

When connecting more than a single section of channel, make sure the adjacent ends are parallel. Then simply “telescope” the guide rail into the adjacent metal channel as shown in the illustration.



### Thermal Expansion

Trackstar belt and chain guides are cut to size at the factory in an ambient temperature of about 73°F. When planning the installation, one must consider the effects of heat and the dissimilar thermal expansion properties of plastic materials versus steel. Higher temperatures will cause the Trackstar guides to expand more rapidly. Always work from the installed temperature and then determine the anticipated increase in environmental temperature to determine the expansion.

For example:

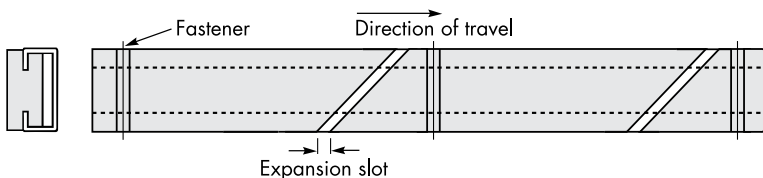
Installation at 73°F, maximum operating temperature can reach 160°F and UHMW-PE guide piece is 120" long.

$160^{\circ}\text{F} - 73^{\circ}\text{F} = 87^{\circ}\text{F}$  of temperature change

Coefficient of thermal expansion from page 2 = 0.0001

$87 \times 120 \times 0.0001 = 1.044"$  of expansion

The illustration shows how to allow for the thermal expansion of plastic materials. Using short sections of guide and leaving small gaps (expansion slots) is preferable to using longer sections and leaving larger gaps. Fasten just one end of each section of guide to the channel to allow for expansion and contraction.



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