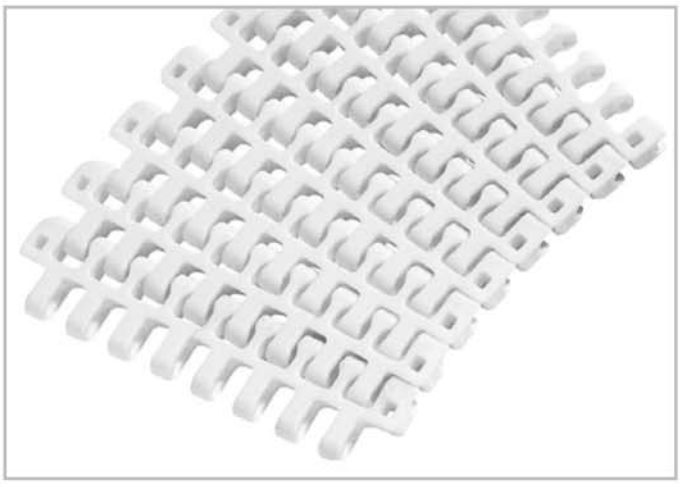
Product Data Series M2500
M2540 Radius Flush Grid 1"

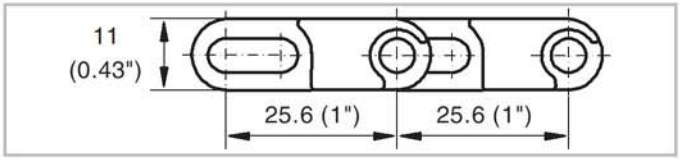
Description

- For radius and straight conveying (collapse factor 2.2)
- 35% open area; 53% open contact area; largest opening 6x12.5 mm *(0.24"x0.49")*
- Excellent for cooling and draining
- Easy to clean
- Food approved materials see pages 9–12
- Rod diameter 5 mm *(0.2")*

Available accessories

- Flights
- Sideguards
- Hold down devices
- GripTop modules





Belt data

Belt material			Polypropylene		Polyethylene	Polyacetal	Polyamide +US	Polyamide
Standard rod material			POM	PA	POM	PA	PA	PA
Nominal tensile strength [F'_N]	straight run	N/m *lb/ft*	19'000 *1'300*	19'000 *1'300*	12'000 *822*	27'000 *1'850*	25'000 *1'713*	25'000 *1'713*
For b_0 > 300 mm *(12")* higher values admissible. Refer to LINK-SeleCalc	in curve	N *lb*	1'000 *225*	1'000 *225*	800 *180*	1'500 *338*	1'300 *293*	1'300 *293*
Temperature range		°C short-term °F *short-term*	*5 – 90* *40 – 195*	*5 – 105* *40 – 220*	-40 – 65 *-40 – 150*	-40 – 90 *-40 – 195*	-46 – 116 +135 *-50 – 240* *+275*	-46 – 130 +160 *-50 – 266* *+320*
Belt weight [m_B]		kg/m² *lb/sqft*	4.7 *0.96*	4.7 *0.96*	5.0 *1.02*	7.0 *1.44*	6.0 *1.23*	6.0 1.23
Coefficient of friction belt to support [μ_G]	• UHMW PE		0.13	0.13	0.25	0.10	0.14	0.14
	• HDPE		0.11	0.11	–	0.08	0.14	0.14
	• PA6, PA66		0.30	0.30	0.23	0.20	–	–
	• Lubricated PA		0.13	0.13	0.12	0.11	0.13	0.13
	• Steel		0.25	0.25	0.14	0.14	0.19	0.19
Coefficient of friction belt to goods [μ_P]	• Glass		0.19	0.19	0.10	0.15	0.17	0.17
	• Steel		0.32	0.32	0.13	0.20	0.19	0.19
	• Plastic (PET)		0.17	0.17	0.10	0.18	0.12	0.12
	• Cardboard		0.22	0.22	0.15	0.20	0.17	0.17

Standard range of belt widths b_0 and collapse factor Q ($R_{min} = Q \cdot b_0$)

b_0 mm	200	250	300	350	400	450	500	550	600	650	700	750	800	850
inch (nom.)	*8*	*10*	*12*	*14*	*16*	*18*	*20*	*22*	*24*	*26*	*28*	*30*	*32*	*34*
Collapse fact. Q	2.03	2.07	2.10	2.12	2.14	2.15	2.16	2.17	2.18	2.18	2.19	2.19	2.19	2.20
b_0 mm	900	950	1000	1050	1100	1150	1200	Belt widths larger than 1200 mm *(48")* not recommended; please contact Habasit						
inch (nom.)	*36*	*38*	*40*	*42*	*44*	*46*	*48*							
Collapse fact. Q	2.20	2.20	2.21	2.21	2.21	2.21	2.21							

Real belt widths are in most cases 0.1% to 0.3% smaller.

Standard belt widths in increments of 50 mm *(2")*. Non-standard widths are offered in increments of 16.66 mm *(0.66")*. Smallest possible width 83.4 mm *(3.25")*.

For material selection refer to detailed material properties pages 9-12 and for colors see table page 25.

Coefficient of friction: The indicated values are valid for dry and clean conditions only. Under dirty conditions this factor may be 2 to 3 times higher.

The nominal tensile strength is valid for 23 °C *(73 °F)*. The admissible tensile force is dependent on the operating temperature near the drive sprockets. Within the temperature range allowed, the admissible tensile force may vary from 100% to 20% of the nominal tensile strength. For detailed information and correct calculation of effective tensile force refer to the Calculation Guide, page 147.

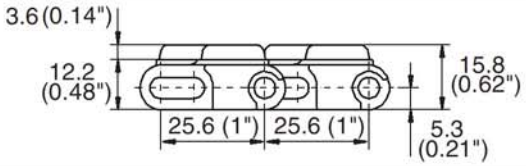
Product Data Series M2500
M2540 Radius GripTop 1"

Description

- For radius and straight conveying, with inclines (collapse factor 2.2)
- 20% open area largest opening 5x7.5 mm *(0.2"x 0.3")*
- Indent 21 mm *(0.83")*
- Abrasion resistant GripTop, high friction
- Food approved materials see pages 9–12
- Rod diameter 5 mm *(0.2")*
- "Open window" sprockets

Accessories

- Clip-on sideguards



Belt data

Belt material			Polypropylene grey		Polypropylene white	
GripTop material			TPE black		TPE white	
Standard rod material			POM	PA	POM	PA
Nominal tensile strength [F'_N]	straight run	N/m	19'000	19'000	19'000	19'000
		lb/ft	*1'300*	*1'300*	*1'300*	*1'300*
For b_0 > 300 mm *(12")* higher values admissible. Refer to LINK-SeleCalc	in curve	N	1'000	1'000	1'000	1'000
		lb	*225*	*225*	*225*	*225*
Temperature range		°C	5 – 60	5 – 60	5 – 60	5 – 60
		°F	*40 – 140*	*40 – 140*	*40 – 140*	*40 – 140*
Belt weight [m_B]		kg/m²	6.4	6.4	6.4	6.4
		lb/sqft	1.31	1.31	1.31	1.31
Coefficient of friction belt to support [μ_G]	• UHMW		0.13	0.13	0.13	0.13
	• HDPE		0.11	0.11	0.11	0.11
	• PA6, PA66		0.30	0.30	0.30	0.30
	• Lubricated PA		0.13	0.13	0.13	0.13
	• Steel		0.25	0.25	0.25	0.25
Coefficient of friction belt to goods [μ_P]			The coefficient of friction varies depending on the type of material and surface. For dry and clean conditions: μ_P = 0.8 – 1.2 For specific elevation angles contact the Habasit representative.			

Standard range of belt widths b_0 and collapse factor Q (R_{min} = Q · b_0)

b_0 mm	200	250	300	350	400	450	500	550	600	650	700	750	800	850
inch (nom.)	*8*	*10*	*12*	*14*	*16*	*18*	*20*	*22*	*24*	*26*	*28*	*30*	*32*	*34*
Collapse fact. Q	2.03	2.07	2.10	2.12	2.14	2.15	2.16	2.17	2.18	2.18	2.19	2.19	2.19	2.20
b_0 mm	900	950	1000	1050	1100	1150	1200	Belt widths larger than 1200 mm *(48")* not recommended; please contact Habasit						
inch (nom.)	*36*	*38*	*40*	*42*	*44*	*46*	*48*							
Collapse fact. Q	2.20	2.20	2.21	2.21	2.21	2.21	2.21							

Real belt widths are in most cases 0.1% to 0.3% smaller.

Standard belt widths in increments of 50 mm *(2")*. Non-standard widths are offered in increments of 16.66 mm *(0.66")*. Smallest possible width 200 mm *(7.9")*.

For material selection refer to detailed material properties pages 9-12.

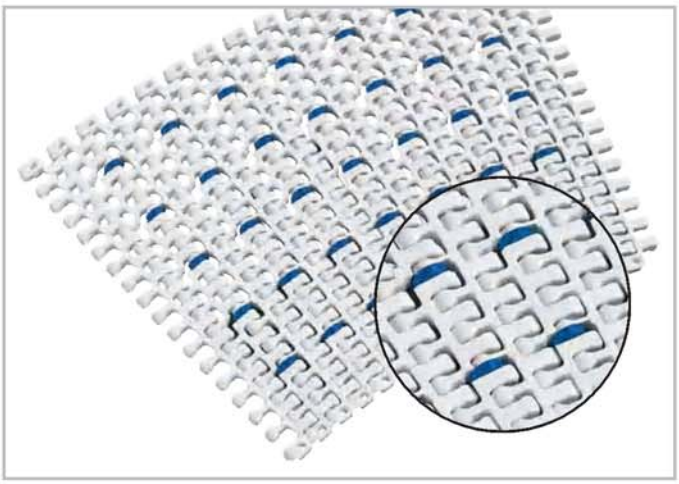
Coefficient of friction: The indicated values are valid for dry and clean conditions only. Under dirty conditions this factor may be 2 to 3 times higher.

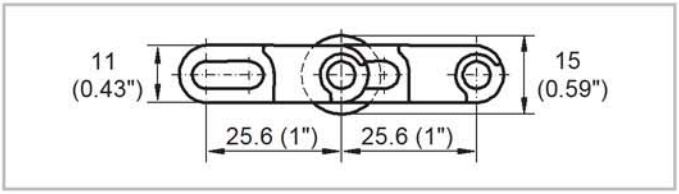
The nominal tensile strength is valid for 23 °C *(73 °F)*. The admissible tensile force is dependent on the operating temperature near the drive sprockets. Within the temperature range allowed, the admissible tensile force may vary from 100% to 20% of the nominal tensile strength. For detailed information and correct calculation of effective tensile force refer to the Calculation Guide, page147.

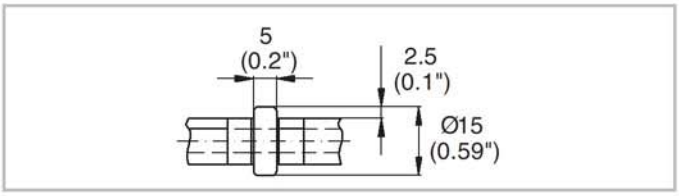
Product Data Series M2500
M2540 Roller Top 1"

Description

- For radius and straight conveying
- Collapse factor 2.2 (unchanged)
- 35% open area; largest opening 6x12.5 mm *(0.24"x0.49")*
- Roller lateral spacing 50 mm *(2")*
- Minimum free edge 42 mm *(1.6")*
- Rollers row spacing 50.8 mm *(2")*
- For low back pressure, wear strips are placed between rollers
- For product driven application wear strips are placed directly under the rollers
- Excellent for cooling and draining
- Food approved materials
- Rod diameter 5 mm *(0.2")*







Belt data

Belt material			Polyacetal
Standard rod material			PA
Standard roller material			POM
Roller lateral spacing per row		mm *inch*	50 *2*
Nominal tensile strength [F'_N]	straight run	N/m *lb/ft*	22'000 *1'507*
For b_0 > 300 mm *(12")* higher values admissible. Refer to LINK-SeleCalc	in curve	N *lb*	1'200 *270*
Temperature range		°C *°F*	-40 – 90 *-40 – 195*
Belt weight [m_B]		kg/m² *lb/sqft*	7.0 *1.44*
Coefficient of friction belt to support [μ_G]	• UHMW		0.10
	• HDPE		0.08
	• PA6, PA66		0.20
	• Lubricated PA		0.11
	• Steel		0.14
Coefficient of friction roller to support [μ_G]			0.05
Coefficient of friction roller to goods [μ_P]			0.05

Standard range of belt widths b_0, free edge and collapse factor Q ($R_{min} = Q \cdot b_0$)

Belt width b_0	mm	200	250	300	350	400	450	500	550	600	650	700	750	800	850	etc.
	inch (nom.)	*8*	*10*	*12*	*14*	*16*	*18*	*20*	*22*	*24*	*26*	*28*	*30*	*32*	*34*	*etc.*
Collapse factor Q		2.03	2.07	2.10	2.12	2.14	2.15	2.16	2.17	2.18	2.18	2.19	2.19	2.19	2.20	etc.
Free edge	mm	42/52	42/52	42/52	42/52	42/52	42/52	42/52	42/52	42/52	42/52	42/52	42/52	42/52	42/52	etc.
I/R	*inch*	*1.7/2*	*1.7/2*	*1.7/2*	*1.7/2*	*1.7/2*	*1.7/2*	*1.7/2*	*1.7/2*	*1.7/2*	*1.7/2*	*1.7/2*	*1.7/2*	*1.7/2*	*1.7/2*	*etc.*
Sprocket	mm	29.1	4.2	29.1	4.2	29.1	4.2	29.1	4.2	29.1	4.2	29.1	4.2	29.1	4.2	etc.
offset	*inch*	*1.1*	*0.2*	*1.1*	*0.2*	*1.1*	*0.2*	*1.1*	*0.2*	*1.1*	*0.2*	*1.1*	*0.2*	*1.1*	*0.2*	*etc.*
Sprockets		4	5	6	7	8	9	10	11	12	13	14	15	16	17	etc.
Rollers (2 rows)		3	4	5	6	7	8	9	10	11	12	13	14	15	16	etc.

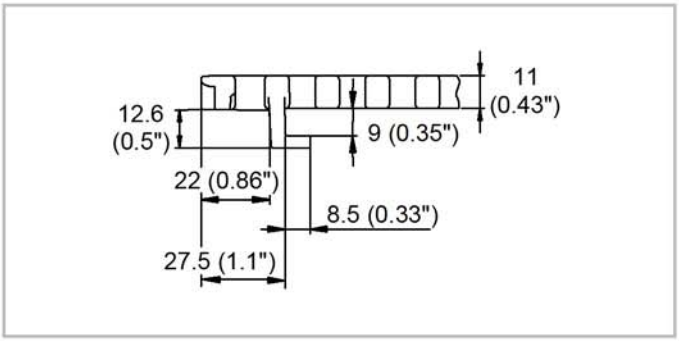
Real belt widths are in most cases 0.1% to 0.3% smaller.

Standard belt widths in increments of 50 mm *(2")*. Smallest possible width 150 mm *(6")*.
For material selection refer to detailed material properties pages 9-12 and for colors see table page 25.
Coefficient of friction: The indicated values are valid for dry and clean conditions only. Under dirty conditions this factor may be 2 to 3 times higher.

The nominal tensile strength is valid for 23 °C *(73 °F)*. The admissible tensile force is dependent on the operating temperature near the drive sprockets. Within the temperature range allowed, the admissible tensile force may vary from 100% to 20% of the nominal tensile strength. For detailed information and correct calculation of effective tensile force refer to the Calculation Guide, page 147.

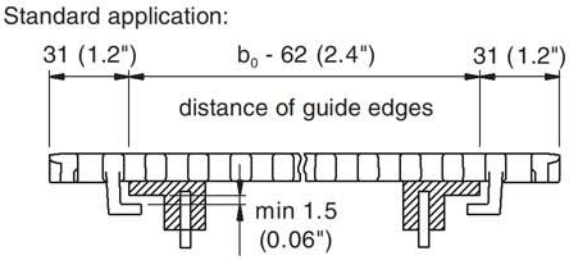
Product Data Series M2500
Hold Down Modules for M2540

To avoid the belt flipping over or slipping off the inner guide rail in the curve, hold down guides are normally used. They are however not suitable if the conveyed goods are larger than the belt width or if side transfer over the belt edge is required. For these cases special modules equipped with hold down tabs (hook modules) are available for both belt edges.



Hold down modules (M2540H)
Hold down tabs are used for all applications where the products must be able to move over the belt edge. The use of hold down modules is also mandatory when applying sideguards.

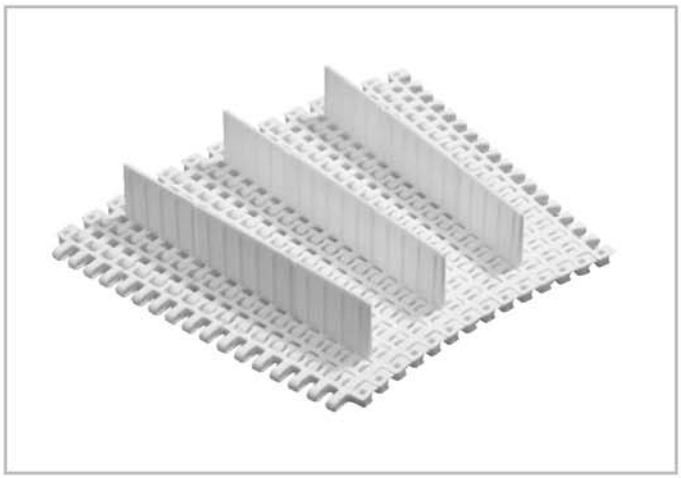
Installation
Make sure to keep clearance between guides and hold down tabs. They are meant to act as lift-off safety devices and not as guides! They will, if in contact with the guides, wear off quickly and may increase the tension in the belt.
For these reasons the conveyor needs to be designed with the appropriate accuracy.
Minimum belt width 150 mm *(6")* (2 Sprockets).



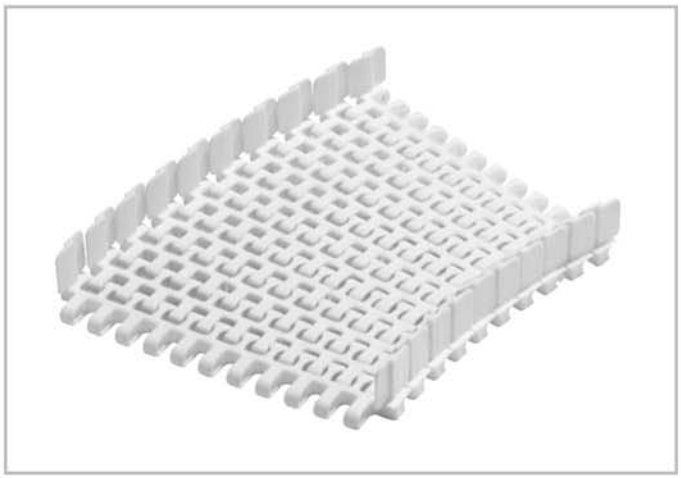
Sprocket sizes
The combination sprocket/shaft size has to be selected in such a way to avoid collision of the hold down tabs with the shaft. Minimum sprocket sizes: M25S1002Q, M25S1030R, M25S1240Q.

Note
The hold down tabs are not recommended to be used for radial guidance. They can be worn away too quickly. Also, they should not be used to hang-up the belt on its return way.
Further design indications see Design Guide Radius Belts and Slider Support Systems.

Product Data Series M2500
Flights and Sideguards M2540

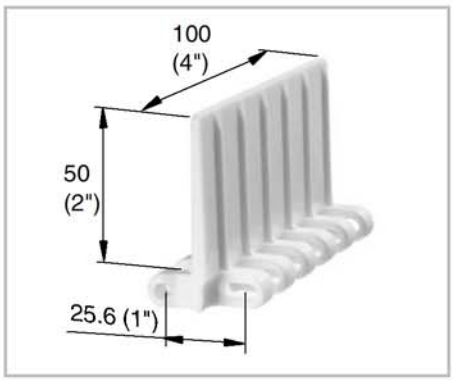


M2540 with middle and edge flights

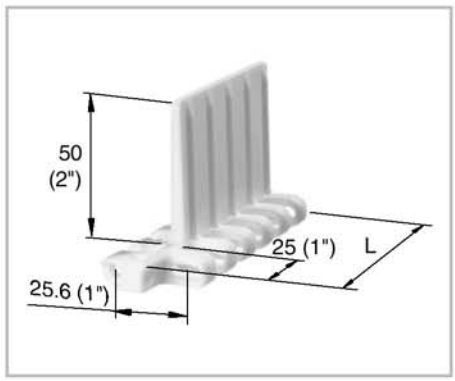


M2540 with sideguards only

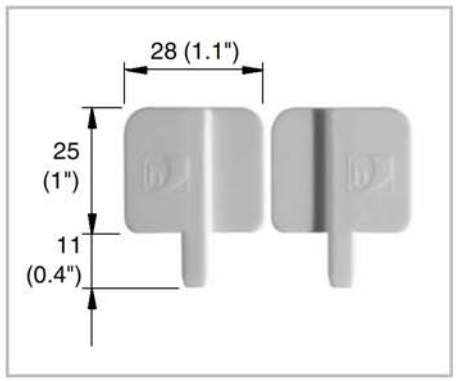
Flights and sideguards are available in one size only. Flights are available with ribs on one side for better release of wet or sticky food products ("no-cling"). They can be cut to specific width and height if required. The collapse factor remains unchanged.



Middle flight
M2540F05



Edge flight
M254RF05 (right side)
M254LF05 (left side)



Sideguards
M254RG02 (right side)
M254LG02 (left side)

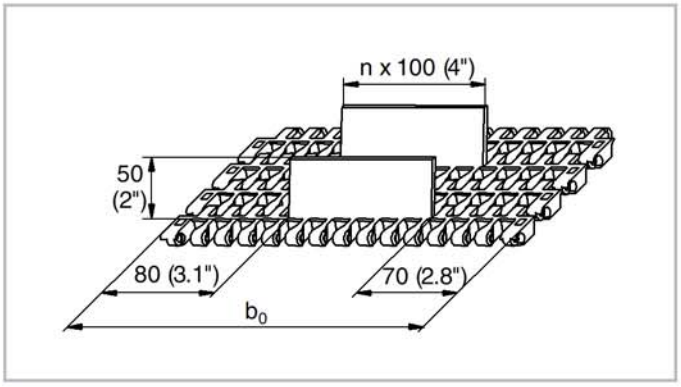
Standard range of belt widths b_0 for belts with flights

mm	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	etc.
inch (nom.)	*8*	*12*	*16*	*20*	*24*	*28*	*32*	*36*	*40*	*44*	*48*	*52*	*56*	*60*	*etc.*

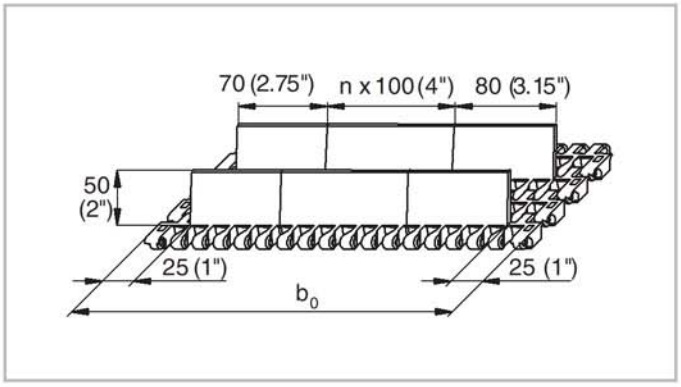
Real belt widths are in most cases 0.1% to 0.3% smaller.

Assembly conceptions for M2540 Radius Belt Flights and Sideguards

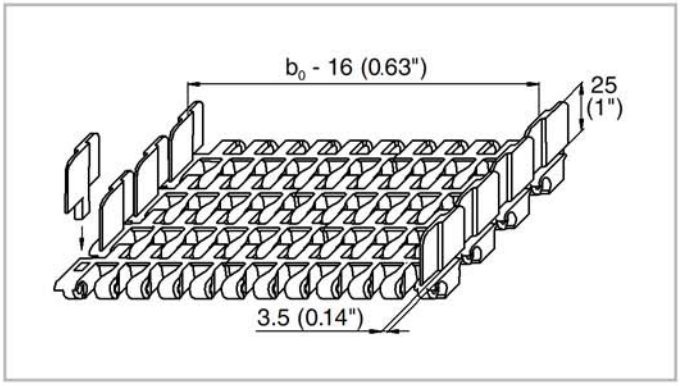
Flights and sideguards are available in one height, see illustration below. Smaller heights can be cut on request.



Middle flights only



Middle and edge flights



Sideguards only (clip-on version)

Standard indents

The combination of flights and sideguards is possible, but not recommended. With sideguards hold down modules must be used. On the return way the belt has to be supported either on the flights or between flights and sideguards (gap only 15 mm *(0.6")* wide). Do not support or guide the belt on the hold down tabs.

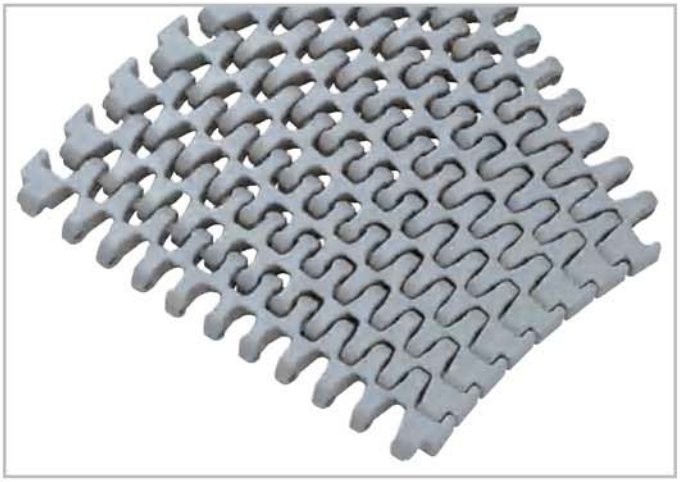
	left belt edge (running direction)	right belt edge (running direction)
Middle flights only (no indent flights)	70 mm *(2.8")*	80 mm *(3.1")*
Middle flights and indent flights	25 mm *(1")*	25 mm *(1")*
Sideguards	3.5 mm *(0.14")*	3.5 mm *(0.14")*

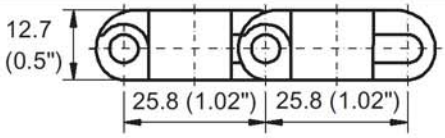
Product Data Series M2500
M2543 Tight Radius 1"

Description

- For radius and straight conveying, ideal for applications with limited space (collapse factor 1.6)
- 35% open area; 57% open contact area; largest opening 7.5x10 mm *(0.3"x0.4")*
- Excellent for cooling and draining
- Easy to clean
- Food approved materials see pages 9–12
- Rod diameter 5 mm *(0.2")*

Contact Habasit for accessories
- Flights
- GripTop modules





Belt data

Belt material			Polypropylene		Polyacetal
Standard rod material			POM	PA	PA
Nominal tensile strength [F'_N]	straight run	N/m *lb/ft*	14'000 *959*	14'000 *959*	20'000 *1'370*
For b_0 > 600 mm *(23.6")* higher values admissible. Refer to LINK-SeleCalc	in curve	N *lb*	400 *90*	400 *90*	800 *180*
Temperature range		°C *°F*	5 – 90 *40 – 195*	5 – 105 *40 – 220*	-40 – 90 *-40 – 195*
Belt weight [m_B]		kg/m² *lb/sqft*	5.5 *1.13*	5.5 *1.13*	7.6 *1.56*
Coefficient of friction belt to support [μ_G]	• UHMW PE		0.13	0.13	0.10
	• HDPE		0.11	0.11	0.08
	• PA6, PA66		0.30	0.30	0.20
	• Lubricated PA		0.13	0.13	0.11
	• Steel		0.25	0.25	0.14
Coefficient of friction belt to goods [μ_P]	• Glass		0.19	0.19	0.15
	• Steel		0.32	0.32	0.20
	• Plastic (PET)		0.17	0.17	0.18
	• Cardboard		0.22	0.22	0.20

Standard range of belt widths b_0 and collapse factor Q ($R_{min} = Q \cdot b_0$)

b_0 mm *inch (nom.)*	250 *10*	300 *12*	350 *14*	400 *16*	450 *18*	500 *20*	550 *22*	600 *24*	650 *26*	700 *28*	750 *30*	800 *32*	850 *34*	900 *36*	950 *38*
Collapse fact. Q	1.43	1.47	1.50	1.52	1.54	1.55	1.56	1.57	1.58	1.58	1.59	1.59	1.60	1.60	1.61
b_0 mm *inch (nom.)*	1000 *40*	1050 *42*	1100 *44*	1150 *46*	1200 *48*	Belt widths larger than 1200 mm *(48 ")* not recommended; collapse factor with accessories may be different; please contact Habasit									
Collapse fact. Q	1.61	1.61	1.62	1.62	1.62										

Real belt widths are in most cases 0.1% to 0.3% smaller.

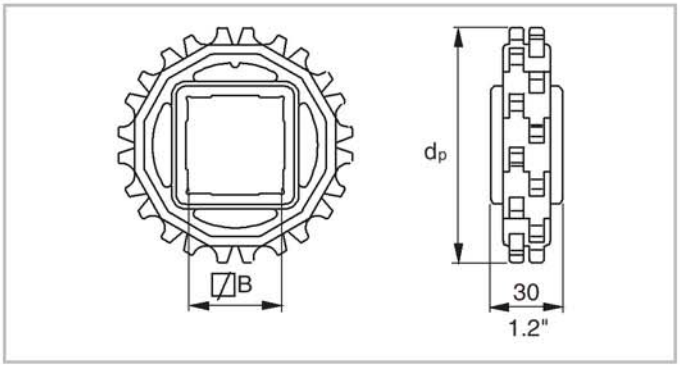
Standard belt widths in increments of 50 mm *(2")*. Non-standard widths are offered in increments of 16.66 mm *(0.66")*. Smallest possible width 200 mm *(7.9")*.
For material selection refer to detailed material properties pages 9-12 and for colors see table page 25.
Coefficient of friction: The indicated values are valid for dry and clean conditions only. Under dirty conditions this factor may be 2 to 3 times higher.

The nominal tensile strength is valid for 23 °C *(73 °F)*. The admissible tensile force is dependent on the operating temperature near the drive sprockets. Within the temperature range allowed, the admissible tensile force may vary from 100% to 20% of the nominal tensile strength. For detailed information and correct calculation of effective tensile force refer to the Calculation Guide, page 147.

Sprocket code

M = modular belts
Belt pitch
S = molded 1 piece; Z = split sprocket molded
Number of teeth
Shaft size (diameter)
Shaft type: Q = square, R = round
Material: 6 = POM, 1 = PP

M	25	S	12	40	Q	6



Example: M25S1240Q
Exceptional sprocket width for M25S07 is 20 mm

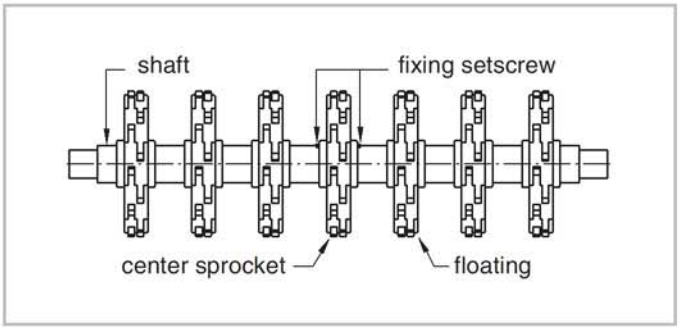
Sprocket availability

No. of teeth (xx)	Pitch Ø d_p mm	Pitch Ø d_p *inch*	A_1 mm	A_1 *inch*	Molded sprockets (M25Sxx) ☑ Square bore Q mm	☑ Square bore Q inch	Ø Round bore R* mm	Ø Round bore R* inch	Split sprockets (M25Zxx) Square bore mm	Split sprockets (M25Zxx) Square bore inch
07	59.4	*2.3*	24.7	*0.97*	25	1	–	–	–	–
08	66.7	*2.6*	28.3	*1.12*	25		30	1 / 1 3/16	–	–
10	82.5	*3.3*	36.3	*1.43*	40	1 / 1.5	30	1 / 1 3/16	–	–
12	98.6	*3.9*	44.3	*1.74*	40	1 / 1.5	30 / 40	1 / 1 3/16	40	1.5
16	130.8	*5.2*	60.4	*2.38*	40	1.5	–	–	–	–
18	146.9	*5.8*	68.4	*2.69*	40 / 60	1.5 / 2.5	30	1 / 1 3/16	40 / 60	1.5 / 2.5
20	163.0	*6.4*	76.5	*3.01*	40 / 60	1.5 / 2.5	30	1 / 1 3/16	40	1.5

*Key ways: for round bore Ø 30 mm: 8 mm *(0.315")*
for round bore Ø 1" and 1 3/16": 6.3 mm *(0.25")*

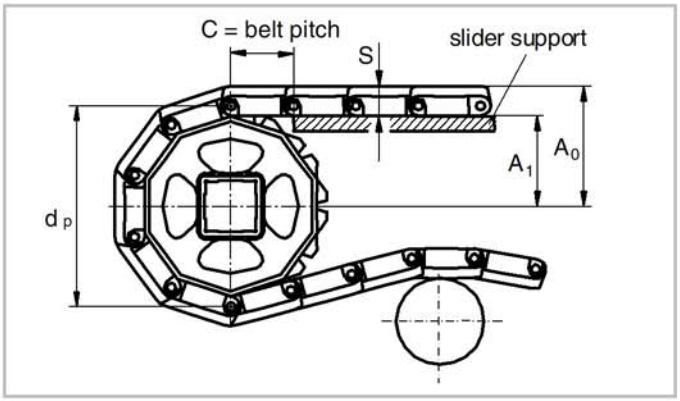
Sprocket arrangement

The maximum sprocket spacing is 100 mm *(4")*. The minimum spacing is 33.3 mm *(1.3")*. The distance C between sprocket axis and slider support is min. 28 mm *(1.1")*. Further information on sprocket installation see Design Guide Sprocket Evaluation.



Sprocket material

Standard material Acetal, natural color.
Optional: Polypropylene (PP), blue, acid resistant. Polyamide (PA), beige, for dry abrasive applications. Thermoplastic Polyurethane (TPU), natural color, for wet abrasive applications. High temperature material (+HT). Super high temperature material (+ST). Split sprockets available in POM only.



Numbers of sprockets and wearstrips

Standard belt width		Number of sprockets per shaft		Number of wearstrips	
mm	*inch* nominal	min. number	100% nominal tensile strength	Carryway *nominal*(top)	Returnway (bottom)
150	*6*	2	2	2	2
200	*8*	2	5	2	2
250	*10*	3	5	3	2
300	*12*	3	6	3	2
350	*14*	4	6	4	3
400	*16*	4	7	4	3
450	*18*	5	9	5	3
500	*20*	5	9	5	3
550	*22*	7	11	6	4
600	*24*	7	11	6	4
700	*28*	7	13	7	4
800	*32*	9	15	7	4
900	*36*	9	15	8	5
1000	*40*	11	17	8	5
1100	*43*	11	19	9	5
1200	*47*	13	21	9	5
1300	*51*	13	23	10	6
1400	*55*	15	25	10	6
1600	*63*	17	27	11	6
1800	*71*	19	31	12	7
2000	*79*	21	35	13	7

Numbers of sprockets (scope)

Sprocket material	Number of sprockets
POM standard	above indicated number
PA	above indicated number
PA +HT	above indicated number
ST	above indicated number
PP	+25%
TPU	Admissible load 500 N For calculation refer to page 157 and LINK-SeleCalc

Note: The maximum number of sprockets is the belt width divided by 33.3 mm *(1.3")*, even number –1.

Sprocket load

The numbers of sprockets listed in the table above give a general indication and refer to the indicated range. Further instructions see Calculation Guide, page 157 or contact the Habasit representative.

Wearstrips

Between driving shaft and idling sprockets or rollers the belt is carried by a slider support furnished with longitudinal wearstrips from UHMW Polyethylene or other suitable material. Minimum back-bending radius for belts without sideguards 150 mm *(6")*, with sideguards 250 mm *(10")*. More details see Design Guide, page 141.