

# 5

---

## **M AND ML GUIDEWAYS WITH SLIDING LAYER (TURCITE OR PERMAGLIDE)**



**A MATERIAL**

M and ML guideways: non-hardened tool steel 1.2842 with affixed Turcite (LB) or Permagliding (LP21)- sliding layer.

**C CHOICE OF COATING**

Reference values	Layer	
	Turcite LB	Permagliding LP21
Specific permissible load capacity Static $p_{max}$ [N/mm <sup>2</sup> ]	6	250
$p * v_{max}$ [N/mm <sup>2</sup> * m/s]	1	3
Permissible temperature [°C]	-40° bis +80°	-40° bis +110°
Friction coefficient (without lubricant)	0.15 – 0.26	Not usable
Friction coefficient (with lubricant)	0.04 – 0.08	0.02 – 0.2

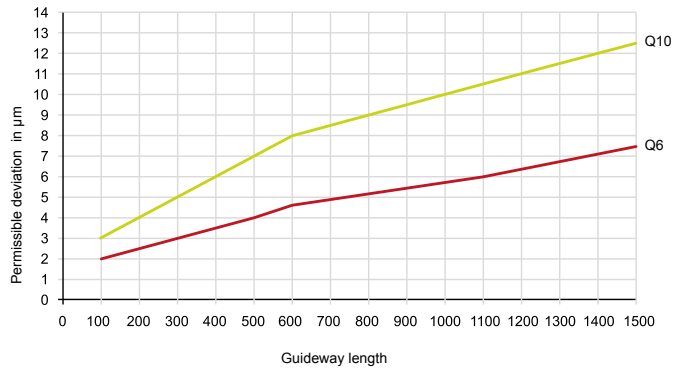
**IMPORTANT INFORMATION**

The use of M and ML guideway sets with a sliding layer and V guideways (without clearance or preloaded) in a rigid environment can result in uncontrolled friction in the presence of thermal expansion.

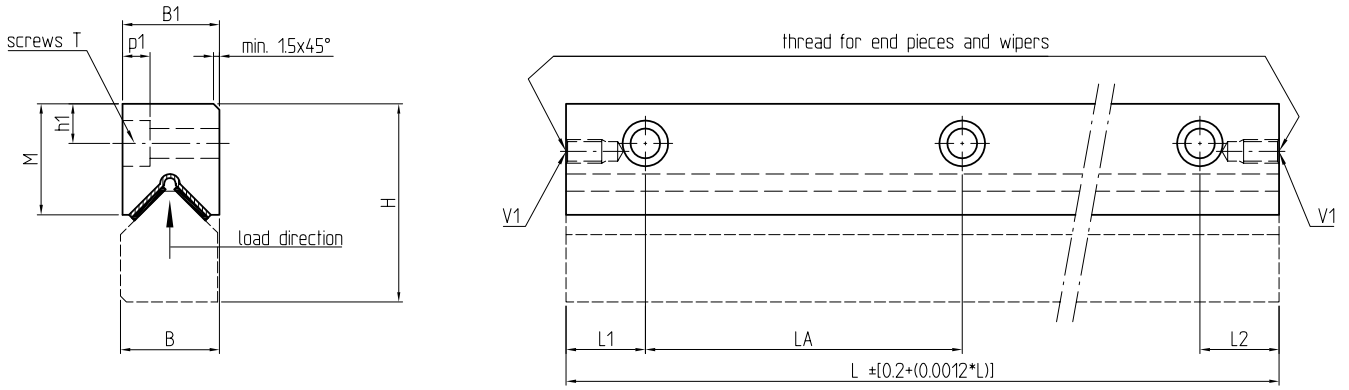
**B QUALITY**

The guideways with a sliding layer are available in 2 qualities (parallelism tolerance of the raceways on the reference sides of the guideways in relation to a defined length).

Q10: normal quality for general machine construction  
 Q6: precise quality for machine tool construction



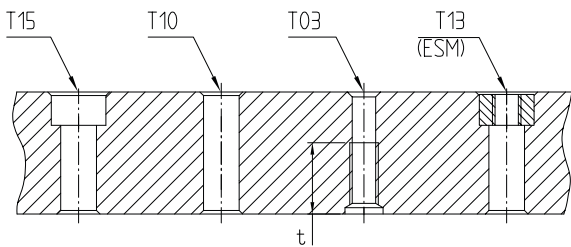
SPECIAL EXECUTIONS  
 SEE CHAPTER 10 ALTERNATIVE VERSIONS



DIMENSIONS IN MM

Type	Dimensions					Fixing holes							Threads
	H 0/-0.2	B 0/-0.1	B1 0/-0.2	M	V	Screws T ****	h1	p1	t min.	LA***	L1** min.	L2** min.	
M3015	30	15	15	17.3	-	M4	5.5	4.6	15	40*	15	15	M3
M4020	40	20	20	23.6	-	M6	7.5	6.8	20	80*	15	15	M5
M5025	50	25	25	29.8	-	M6	10	6.8	15	80*	20	20	M6
M6035	60	35	35	36.3	-	M8	11	9.0	20	100	20	20	M6
M7040	70	40	40	41.3	-	M10	13	11.0	25	100	20	20	M6
M8050	80	50	50	46.3	-	M12	14	13.0	30	100	20	20	M6

\* M3015: length (L) 100mm, hole distances (LA) = 35mm  
M4020: length (L) 100mm, hole distances (LA) = 50mm  
M5025: length (L) 100mm, hole distances (LA) = 50mm  
\*\* L1 and L2 are the same size at both ends of the guideways and dependent on the guideway length without any specific requests being made.  
\*\*\* The tolerance of the hole distances (LA) is in proportion to the length tolerance  
\*\*\*\* 4 hole types in the guideways for screw size T (according to the drawing below)



- T15: Sinkhole for screws ISO 4762
- T10: Clearance hole
- T03: Threaded hole, thread length "t"
- T13: Sinkhole as T15, but with insert nuts ESM

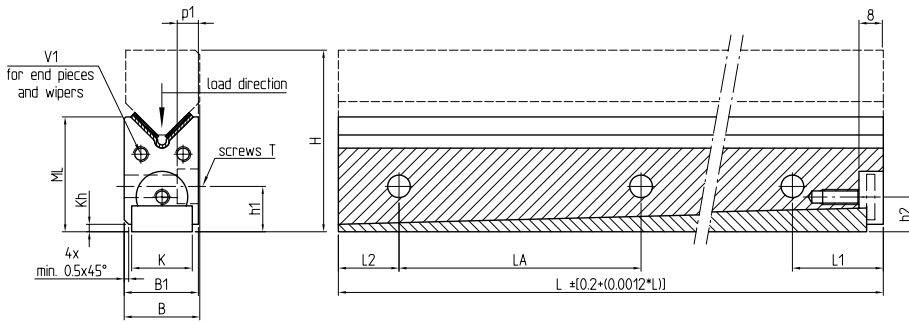
STANDARD LENGTHS (MM)

Dimensions	100	150	200	300	400	500	600	700	800	900	1000	Made-to-measure lengths up to L max.
M3015	o	o	o	o	o	o	o					600
M4020	o	o	o	o	o	o	o	o	o	o	o	1000
M5025	o		o	o	o	o	o	o	o	o	o	1300
M6035			o	o	o	o	o	o	o	o	o	1300
M7040			o	o	o	o	o	o	o	o	o	1300
M8050				o	o	o	o	o	o	o	o	1300

o = ex stock, non-hardened, non-ground  
 Special lengths available on request

Dimensions	Maximum permissible static load*	
	Turcite LB (N)	Permaglide LP21 (N)
M3015	3'600	150'000
M4020	6'600	275'000
M5025	8'400	350'000
M6035	12'000	500'000
M7040	13'800	575'000
M8050	16'200	675'000

\* For guideways with a length of 100 mm, load direction according to dimension diagram, see page 60



DIMENSIONS IN MM

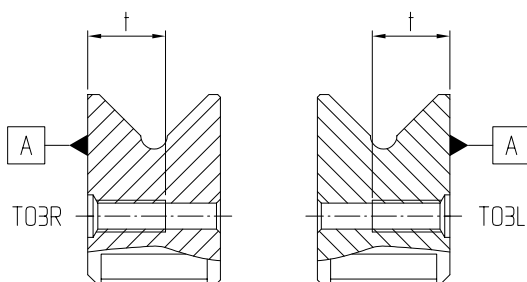
Type	Dimensions						Fixing holes							Gib screws	Threads
	H*	B 0/-0.1	B1 0/-0.2	ML*	K	Kh*	Screws T ****	h1*	p1	t	LA	L1*** min.	L2*** Min.		
ML5020	50	20	20	33	15	5.5	M6	17.5	6.8	20	80**	30	15	15	M4
ML5520	55	20	20	38	15	6	M6	22.5	6.8	20	80	30	15	20	M4
ML5525	55	25	25	34	20	2.5	M6	15	6.8	15	80**	30	20	11.5	M5
ML6025	60	25	25	39	20	3.5	M6	20	6.8	15	80	30	20	16.5	M5
ML6525	65	25	25	44	20	5	M6	25	6.8	15	80	30	20	21.5	M5
ML7025	70	25	25	48	20	6.5	M6	30	6.8	15	80	30	20	26.5	M5
ML7035	70	35	35	45.5	25	3	M8	21	9	20	100**	32	20	15.5	M6
ML8035	80	35	35	55.5	25	5	M8	31	9	20	100	32	20	25.5	M6
ML8040	80	40	40	50.5	30	3	M10	23	11	25	100**	32	20	16	M6
ML9040	90	40	40	60.5	30	5	M10	33	11	25	100	32	20	26	M6
ML9050	90	50	50	56	40	3	M12	24	13	30	100**	32	20	15.5	M6
ML10050	100	50	50	66	40	5	M12	34	13	30	100	32	20	25.5	M6

\* These dimensions are dependent on the gib position, adjustment range ± 0,5 mm

\*\* ML5020 + ML5525 + ML7035 + ML8040 + ML9050: length (L) 100mm, hole distance (LA) = 50mm.

\*\*\* L1 and L2 are the same size at both ends of the guideways and dependent on the guideway length without any specific requests being made.

\*\*\*\* 3 hole types in the guideways for screw size T (according to the drawing below)

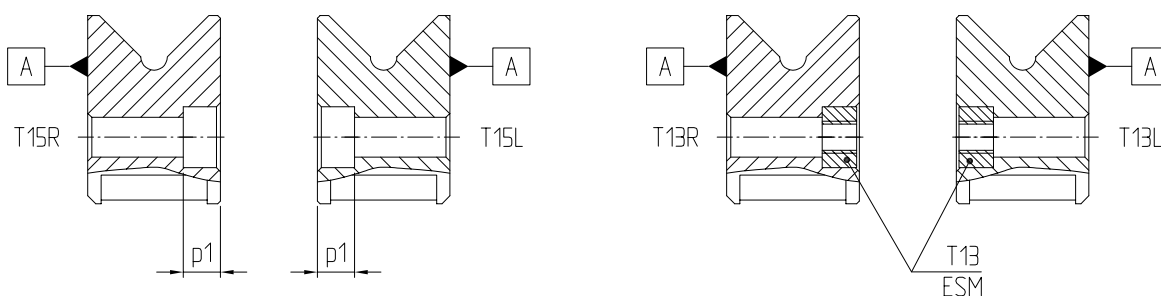


T15: Sinkhole for screws ISO 4762  
Depending on left or right guideway

T03: Threaded hole, thread length "t"  
Depending on left or right guideway

T13: Sinkhole as T15, but with insert nuts ESM  
Depending on left or right guideway

[A]: Reference side



STANDARD LENGTHS (MM)

Dimensions	100	200	250	300	400	500	600	700	750	800	900	1000
ML5020	○	○		○								
ML5520					○	○	○					
ML5525	○	○	○									
ML6025				○	○	○						
ML6525							○	○	○			
ML7025										○	○	○
ML7035	○	○		○	○	○						
ML8035							○	○		○	○	○
ML8040	○	○		○	○	○						
ML9040							○	○		○	○	○
ML9050	○	○		○	○	○						
ML10050							○	○		○	○	○

○ = ex stock, non-hardened, non-ground  
 Special lengths available on request

Dimensions	Maximum permissible static load*	
	Turcite LB (N)	Permaglide LP21 (N)
ML5020 ML5520	6'600	275'000
ML5525 ML6025 ML6525 ML7025	8'400	350'000
ML7035 ML8035	12'000	500'000
ML8040 ML9040	13'800	575'000
ML9050 ML10050	16'200	675'000

\* For guideways with a length of 100mm, load direction according to dimension diagram, see page 62