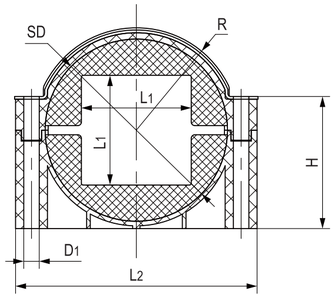
SOLAR TRACKER SOLUTION

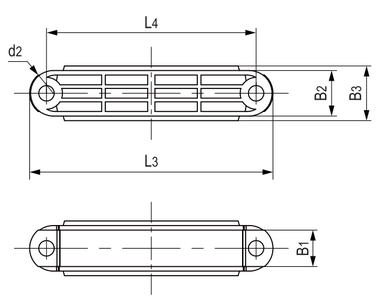
BERGMANN
ENERGY OF THE FUTURE

Enerinvest srl - Via Cardarelli 85 , 86039 Termoli (CB) Italy - tel +39 0875.702073- email: info@bergmannitalia.it- web: www.bergmannitalia.it

SOLAR TRACKER SOLUTION

PVC BEARINGS AND ACCESSORIES FOR SOLAR TRACKING SYSTEM





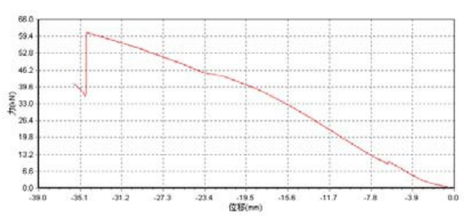
Pa N Ac	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	d1 [mm]	d2 [mm]	H [mm]	SD [mm]	R [mm]	B1 [mm]	B2 [mm]	B3 [mm]
PQB-100	101	265	267	230	17	26	145	200	112.4	40	50	60
PQB-110	111	265	267	230	17	26	145	200	112.4	40	50	60
PQB-120	121	265	267	230	17	26	145	200	112.4	40	50	60
PQB-140	141	312	312	273	17	26	179	245	134.9	40	50	60
PQB-150	151	312	312	273	17	26	179	245	134.9	40	50	60

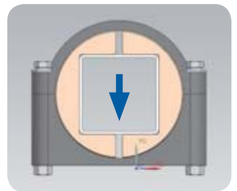
Bearing load capacity test

Test items and directions		Test data
PQB-120 Compression test	Test direction A+	130 kN
	Test direction B+	60 kN
	Test direction C+	120 kN
PQB-120 Tensile test	Test direction A-	40 kN
	Test direction B-	50 kN
	Test direction C-	50 kN

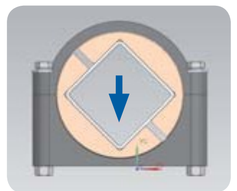
Test direction A+/C+

Test direction A+/C+

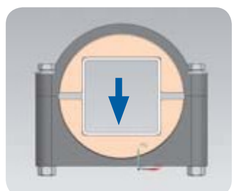




Test Direction A+

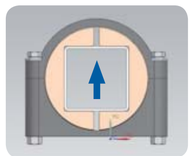


Test Direction B+



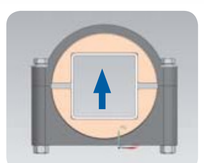
Test Direction C+

Tensile test whit an angle of 9 degree



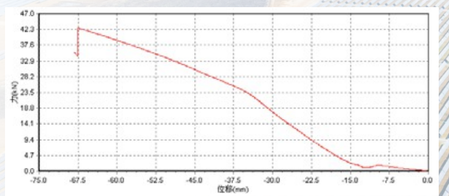
Test Direction
A-

Test Direction
B-

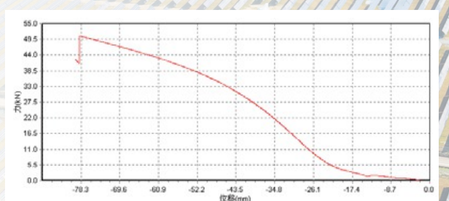


Test Direction
C-

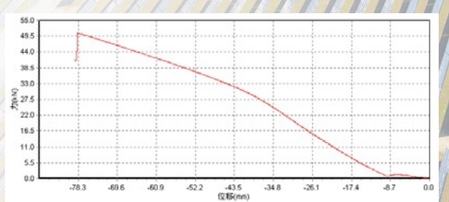
Test direction A-



Test direction B -



Test direction C-



Bering material technical data table

Material properties	Standard	Unit	Mn527
Tensile modulus	ISO527	MPa	2700
Tensile strength	ISO527	MPa	63
Flexural modulus	ISO178	MPa	2500
Flexural strength	ISO178	MPa	85
Charpy notched impact strength	ISO 179	kJ/m2	7
Shore hardness	ISO868	D	77
Max static load	ITS027	MPa	30
Long-time application temperature	ITS029	°C	-40/+80
Heat deflection temperature (1.8 Mpa)	ISO72-2/A	°C	95
Thermal conductivity	ISO22007	W/m/k	0.2
Coefficient of thermal expansion	ISO11359	K-1*10-5	12
Moisture absorption RH50/23°	ISO62	%	0.3
Max. water absorption, equilibrium 23°	ISO62	%	1.2
Flammability	UL94	Class	HB
Volume resistance	IEC60093	Ω*cm	$>10^{12}$
Surface resistance	IEC60093	Ω	$>10^{13}$

Housing material technical data sheet

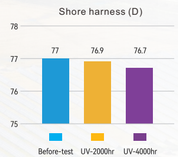
Material properties	Standard	Unit	M163
Mechanical properties			
Tensile modulus (dam,1 mm/min)	ISO527	MPa	11000
Tensile strength (dam, 50 mm/min)	ISO527	MPa	175
Flexural modulus	ISO178	MPa	9800
Flexural strength	ISO178	MPa	250
Charpy unnotched impact strength	ISO179/1eU	kJ/m2	80
Charpy notched impact strength	ISO179/1eU	kJ/m2	15
Shore hardness	ISO868	D	78
Phisical and Thermal properties			
Heat deflection temperature (0.45 Mpa)	ISO75	°C	215
VICAT Softening temperature (50° C/h -50 N)	ISO306	°C	210
Flammability	UL94	Class	HB
Electrical properties			
Volume resistance	IEC60093	Ω*cm	1013
Surface resistance	IEC60093	Ω	1012

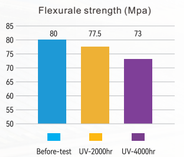
UV Stability test

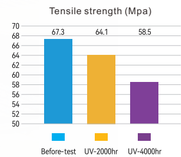
UV Stability test

UV Exposure periods	UV lamp	UV Exposure	Black-standard temperature	% Relative humidity
8h Dry	1A UVA-340	340nm 0.76W.m-2.n.m-1	50°C±3°C	Not control
0.25h Spray			Not control	Not control
3.75h Condensation		Turn off UV lamp	50°C±3°C	Not control

Test method: ISO 4892-3-2016
Total exposure: 45 KW/h
Exposure time: 4000h

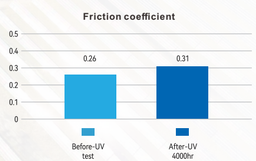


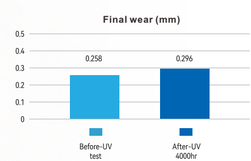




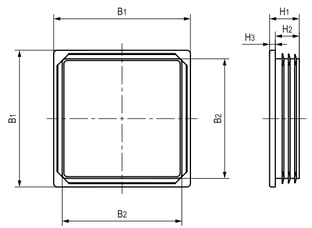
Mn527 Anti-wear ability test

Test conditions	
Enviromental	Room temp. 23
Shaft:	Steel whit hot-dip galvanized surface
Equivalent dynamic load:	10Kn [22.6% 10 Kn (22.6% Effective contact area: 3.1 Mpa)
Swing angle:	±45°
Swing frequency:	10 cycles/min
Total cycles:	13688 (25-years cycles 9125 x safety factor 1.5)





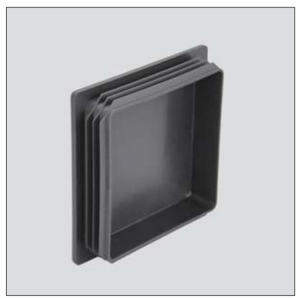
Standard specification



PL-100

Square profile dimension

Model	B1 [mm]	B2 [mm]	H1 [mm]	H2 [mm]	H3 [mm]	C- Profile tickness
PL-100	100	85	23	18	5	2~5
PL-120	120	105	26	21	5	2~5
PL-150	150	138	24	20	4	2~5



- Plastic end caps with pre-load tip design
- UV resistance
- High and low temperature damp-heat aging
- High strength, easy installation

THE BEST TECNOLOGIES IN THE FIELD

www.bergmannitalia.it