

CSB-SFP 耐磨半成品 Semi-finished products



CSB自润滑工程塑料半成品为客户特殊尺寸轴承少量快速制作提供了可能；节省了额外的模具费用和提高了交货速度。而且可以直接用来加工尺寸或形状非标准件产品，为用户提供各种自润滑部件的解决方案。

CSB self-lubricated plastic semi-finished products are customized materials available by the customer special requirement of uncommon bearing sizes. It is possible for the mold cost saving and improves the delivery time. The non-standard bearings are available with this flexible solution.

技术数据表 Technical data table

材料性能 Material properties	标准 Standard	单位 Unit	M80	M81	MN70	MN71
颜色 Color	-	-	蓝色 Blue	绿色 Green	白色 White	白色 White
密度 Density	ISO1183	g/cm ³	1.15	0.94	1.42	1.38
最大吸湿率 Max. moisture absorption, 50%RH	ISO62	%	2.5	0.01	0.3	0.3
最大吸水率 Max. water absorption	ISO62	%	7.0	0.05	1.4	0.5
对钢摩擦系数 Coefficient of sliding friction(steel)	ITS025	μ	0.10-0.30	0.05-0.15	0.10-0.35	0.15-0.40
极限PV值 Max. PV value	ITS026	N/mm ² × m/s	0.25	0.20	0.30	0.25
弯曲模量 Flexural modulus	ISO178	MPa	3000	650	2300	5000
弯曲强度 Flexural strength	ISO178	MPa	90	20	60	130
最大静载荷 Max. static load	ITS027	MPa	70	25	30	85
最大动载荷 Max. dynamic load	ITS028	MPa	36	6	13	45
邵氏硬度 Shore hardness	ISO868	D	80	62	76	81
连续运行温度 Long-term application temperature	ITS029	℃	+90	+80	+90	+110
短时运行温度 Short-term application temperature	ITS029	℃	+180	+120	+110	+180
最低运行温度 Lowest application temperature	ITS029	℃	-40	-100	-50	-40
导热性 Thermal conductivity	ISO22007	W/m/K	0.24	0.40	0.25	0.25
线性热膨胀系数 Coefficient of thermal expansion	ISO11359	K ⁻¹ × 10 ⁻⁵	9	19	11	6
阻燃等级 Flammability	UL94	Class	HB	HB	HB	HB
体电阻率 Volume resistance	IEC60093	Ω · cm	>10 ¹³	>10 ¹⁴	>10 ¹³	>10 ¹⁴
面电阻率 Surface resistance	IEC60093	Ω	>10 ¹²	>10 ¹⁴	>10 ¹²	>10 ¹⁴

*ITS: CSB内部测试标准 CSB company's internal test standards.

**除非特殊说明测试温度为23℃ Test temperatures are 23℃ unless otherwise stated.

材料性能 Material properties	标准 Standard	单位 Unit	MN73	EPB	EPB5A
颜色 Color	-	-	灰色 Grey	深灰 Dark grey	米色 Beige
密度 Density	ISO1183	g/cm ³	1.40	1.46	1.28
最大吸湿率 Max. moisture absorption, 50%RH	ISO62	%	0.3	0.3	0.3
最大吸水率 Max. water absorption	ISO62	%	0.5	1.2	0.5
对钢动摩擦系数 Coefficient of sliding friction(steel)	ITS025	μ	0.10-0.30	0.05-0.15	0.25-0.40
极限PV值 Max. PV value	ITS026	N/mm ² × m/s	0.35	0.40	0.25
弯曲模量 Flexural modulus	ISO178	MPa	4200	2300	3600
弯曲强度 Flexural strength	ISO178	MPa	120	60	140
最大静载荷 Max. static load	ITS027	MPa	80	35	90
最大动载荷 Max. dynamic load	ITS028	MPa	41	15	46
邵氏硬度 Shore hardness	ISO868	D	80	75	80
连续运行温度 Long-term application temperature	ITS029	℃	+110	+80	+250
短时运行温度 Short-term application temperature	ITS029	℃	+180	+120	+300
最低运行温度 Lowest application temperature	ITS029	℃	-40	-40	-100
导热性 Thermal conductivity	ISO22007	W/m/K	0.25	0.20	0.24
线性热膨胀系数 Coefficient of thermal expansion	ISO11359	K ⁻¹ × 10 ⁻⁵	6	10	9
阻燃等级 Flammability	UL94	Class	HB	HB	V0
体电阻率 Volume resistance	IEC60093	Ω · cm	>10 ¹⁴	>10 ¹³	>10 ¹⁴
面电阻率 Surface resistance	IEC60093	Ω	>10 ¹⁴	>10 ¹²	>10 ¹³

*ITS: CSB内部测试标准 CSB company's internal test standards.

**除非特殊说明测试温度为23℃ Test temperatures are 23℃ unless otherwise stated.

材料性能 Material properties	标准 Standard	单位 Unit	EPB6	EPB10	EPB13
颜色 Color	-	-	白色 White	黑色 Black	黄色 Yellow
密度 Density	ISO1183	g/cm ³	1.45	1.42	1.48
最大吸湿率 Max. moisture absorption, 50%RH	ISO62	%	0.3	0.1	0.3
最大吸水率 Max. water absorption	ISO62	%	1.2	0.5	1.3
对钢动摩擦系数 Coefficient of sliding friction(steel)	ITS025	μ	0.05-0.18	0.10-0.25	0.05-0.15
极限PV值 Max. PV value	ITS026	N/mm ² × m/s	0.30	1.35	0.40
弯曲模量 Flexural modulus	ISO178	MPa	2300	10000	2600
弯曲强度 Flexural strength	ISO178	MPa	60	210	60
最大静载荷 Max. static load	ITS027	MPa	35	125	35
最大动载荷 Max. dynamic load	ITS028	MPa	14	80	14
邵氏硬度 Shore hardness	ISO868	D	74	86	74
连续运行温度 Long-term application temperature	ITS029	℃	+80	+250	+90
短时运行温度 Short-term application temperature	ITS029	℃	+120	+315	+120
最低运行温度 Lowest application temperature	ITS029	℃	-40	-100	-50
导热性 Thermal conductivity	ISO22007	W/m/K	0.20	0.60	0.25
线性热膨胀系数 Coefficient of thermal expansion	ISO11359	K ⁻¹ × 10 ⁻⁵	10	5	10
阻燃等级 Flammability	UL94	Class	HB	V0	HB
体电阻率 Volume resistance	IEC60093	Ω · cm	>10 ¹³	>10 ⁵	>10 ¹³
面电阻率 Surface resistance	IEC60093	Ω	>10 ¹²	>10 ⁵	>10 ¹²

*ITS: CSB内部测试标准 CSB company's internal test standards.

**除非特殊说明测试温度为23℃ Test temperatures are 23℃ unless otherwise stated.

M80耐磨棒 Round rods



- 自润滑、免维护
- 通用性较强
- 适合中高载荷
- 低成本选择
- Maintenance-free, self-lubricated
- Suitable for most application
- Suitable for medium and high load operation
- Low cost

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
M80-025-1000	25	1000
M80-030-1000	30	1000
M80-035-1000	35	1000
M80-040-1000	40	1000

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
M80-045-1000	45	1000
M80-050-1000	50	1000
M80-055-1000	55	1000
M80-060-1000	60	1000

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
M80-065-1000	65	1000
M80-070-1000	70	1000
M80-080-1000	80	1000
M80-100-1000	100	1000

M81耐磨棒 Round rods



- 自润滑、免维护
- 低摩擦、耐磨损
- 抗冲击、低噪音
- 极低吸水性
- 耐低温-196℃
- Maintenance-free, self-lubricated
- Low friction, anti-wear
- Impact resistance, low noise
- Low water absorption
- Very low temperature -196℃

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
M81-015-1000	15	1000
M81-020-1000	20	1000
M81-025-1000	25	1000
M81-030-1000	30	1000

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
M81-035-1000	35	1000
M81-040-1000	40	1000
M81-045-1000	45	1000
M81-050-1000	50	1000

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
M81-055-1000	55	1000
M81-060-1000	60	1000
M81-065-1000	65	1000

EPB耐磨棒 Round rods



- 自润滑、免维护
- 特种润滑耐磨
- 低摩擦系数
- 长寿命
- Maintenance-free, self-lubricated
- Special lubricant and wear resistant
- Low friction coefficient
- Long service time

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
EPB-015-1000	15	1000
EPB-020-1000	20	1000
EPB-025-1000	25	1000
EPB-030-1000	30	1000

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
EPB-035-1000	35	1000
EPB-040-1000	40	1000
EPB-045-1000	45	1000
EPB-050-1000	50	1000

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
EPB-055-1000	55	1000
EPB-060-1000	60	1000
EPB-065-1000	65	1000

EPB5A耐磨棒 Round rods



- 连续使用温度: -100/+250℃
 - 适合高载荷低速运用
 - 高温下保持较高的承载能力
 - 较广泛的化学抗性
 - 符合FDA等级
- Continuous working temperature: -100/+250℃
 - Suitable for high load and lovo speed operation
 - High load capacity at higher temperature
 - Good chemical resistance
 - FDA grade

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
EPB5A-015-1000	15	1000
EPB5A-020-1000	20	1000
EPB5A-025-1000	25	1000
EPB5A-030-1000	30	1000

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
EPB5A-035-1000	35	1000
EPB5A-040-1000	40	1000
EPB5A-045-1000	45	1000
EPB5A-050-1000	50	1000

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
EPB5A-055-1000	55	1000
EPB5A-060-1000	60	1000
EPB5A-065-1000	65	1000

EPB6耐磨棒 Round rods



- 自润滑、免维护
 - 极低摩擦系数
 - 耐磨性能优越
 - 长期使用温度165℃
- Maintenance-free, self-lubricated
 - Low friction coefficient
 - Good wear resistant
 - Continuous work temperature 165℃

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
EPB6-015-1000	15	1000
EPB6-020-1000	20	1000
EPB6-025-1000	25	1000
EPB6-030-1000	30	1000

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
EPB6-035-1000	35	1000
EPB6-040-1000	40	1000
EPB6-045-1000	45	1000
EPB6-050-1000	50	1000

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
EPB6-055-1000	55	1000
EPB6-060-1000	60	1000
EPB6-065-1000	65	1000

EPB10耐磨棒 Round rods



- 自润滑、免维护
 - 非常耐磨长寿命
 - 极好的耐腐蚀性
 - 长期使用温度-100/+260℃
- Maintenance-free, self-lubricated
 - Good wear resistance with long service life
 - Good chemical resistance
 - Continuous work temperature -100/+260℃

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
EPB10-015-1000	15	1000
EPB10-020-1000	20	1000
EPB10-025-1000	25	1000
EPB10-030-1000	30	1000

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
EPB10-035-1000	35	1000
EPB10-040-1000	40	1000
EPB10-045-1000	45	1000
EPB10-050-1000	50	1000

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
EPB10-055-1000	55	1000
EPB10-060-1000	60	1000
EPB10-065-1000	65	1000

*更多尺寸规格请查询网站 Please visit website for more specification: www.csb-ep.com

EPB13耐磨棒 Round rods



- 连续使用温度: -50/+90℃
- 适合干运行、免维护
- 不同轴材料磨损很小
- 较低的摩擦系数
- 适用于软轴
- 吸水性较低
- Continuous working temperature: -50/+90℃
- Maintenance-free dry operation
- Small wear off amount against various shaft materials
- Lower friction
- Suitable for soft shaft
- Low water absorption

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
EPB13-015-1000	15	1000
EPB13-020-1000	20	1000
EPB13-025-1000	25	1000
EPB13-030-1000	30	1000

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
EPB13-035-1000	35	1000
EPB13-040-1000	40	1000
EPB13-045-1000	45	1000
EPB13-050-1000	50	1000

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
EPB13-055-1000	55	1000
EPB13-060-1000	60	1000
EPB13-065-1000	65	1000

MN70耐磨棒 Round rods



- 连续使用温度: -40/+80℃
- 自润滑、免维护
- 低摩擦系数
- 长寿命
- 符合FDA标准
- Continuous working temperature: -40/+80℃
- Maintenance-free, self-lubricated
- Low friction coefficient
- Long service time
- FDA grade

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
MN70-015-1000	15	1000
MN70-020-1000	20	1000
MN70-025-1000	25	1000
MN70-030-1000	30	1000

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
MN70-035-1000	35	1000
MN70-040-1000	40	1000
MN70-045-1000	45	1000
MN70-050-1000	50	1000

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
MN70-055-1000	55	1000
MN70-060-1000	60	1000
MN70-065-1000	65	1000

MN71耐磨棒 Round rods



- 连续使用温度: -40/+120℃
- 自润滑、免维护
- 适合在灰尘中运行
- 适合在潮湿环境中运行
- Continuous working temperature: -40/+120℃
- Maintenance-free, self-lubricated
- Suitable for operation in dusty environment
- Suitable for working in humid environment

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
MN71-015-1000	15	1000
MN71-020-1000	20	1000
MN71-025-1000	25	1000
MN71-030-1000	30	1000

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
MN71-035-1000	35	1000
MN71-040-1000	40	1000
MN71-045-1000	45	1000
MN71-050-1000	50	1000

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
MN71-055-1000	55	1000
MN71-060-1000	60	1000
MN71-070-1000	70	1000
MN71-080-1000	80	1000

MN73耐磨棒 Round rods



- 连续使用温度: -40/+120℃
- 适合干运行、免维护
- 较低的摩擦系数
- 适合在潮湿环境中运行
- Continuous working temperature: -40/+120℃
- Maintenance-free dry operation
- Low friction coefficient
- Suitable for working in humid environment

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
MN73-015-1000	15	1000
MN73-020-1000	20	1000
MN73-025-1000	25	1000

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
MN73-030-1000	30	1000
MN73-035-1000	35	1000
MN73-040-1000	40	1000

产品编码 Part No.	直径 Diameter [mm]	长度 Length L [mm]
MN73-050-1000	50	1000
MN73-060-1000	60	1000
MN73-070-1000	70	1000

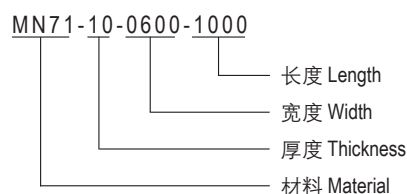
MN71耐磨板 Anti-wear plates



- 连续使用温度: -40/+120℃
- 自润滑、免维护
- 适合在灰尘中运行
- 适合在潮湿环境中运行
- Continuous working temperature: -40/+120℃
- Maintenance-free, self-lubricated
- Suitable for operation in dusty environment
- Suitable for working in humid environment

产品编码 Part No.	厚度 Thickness [mm]	公差 Tolerance [mm]	宽度 Width [mm]	长度 Length L [mm]
MN71-08-0600-1000	08	+0.30/+1.50	600	1000
MN71-10-0600-1000	10	+0.30/+1.50	600	1000
MN71-12-0600-1000	12	+0.30/+1.50	600	1000
MN71-15-0600-1000	15	+0.30/+1.50	600	1000
MN71-20-0600-1000	20	+0.50/+2.50	600	1000
MN71-25-0600-1000	25	+0.50/+2.50	600	1000
MN71-30-0600-1000	30	+0.50/+2.50	600	1000

产品编码 Part No.:



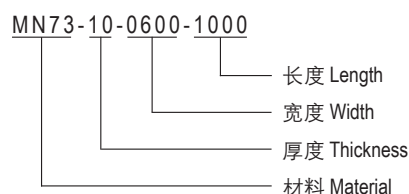
MN73耐磨板 Anti-wear plates



- 连续使用温度: -40/+120℃
- 适合干运行、免维护
- 较低的摩擦系数
- 适合在潮湿环境中运行
- Continuous working temperature: -40/+120℃
- Maintenance-free dry operation
- Low friction coefficient
- Suitable for working in humid environment

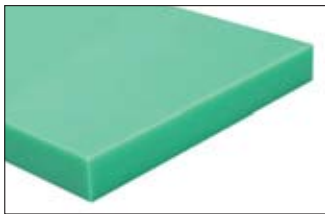
产品编码 Part No.	厚度 Thickness [mm]	公差 Tolerance [mm]	宽度 Width [mm]	长度 Length L [mm]
MN73-08-0600-1000	08	+0.30/+1.50	600	1000
MN73-10-0600-1000	10	+0.30/+1.50	600	1000
MN73-12-0600-1000	12	+0.30/+1.50	600	1000
MN73-15-0600-1000	15	+0.30/+1.50	600	1000
MN73-20-0600-1000	20	+0.50/+2.50	600	1000
MN73-25-0600-1000	25	+0.50/+2.50	600	1000
MN73-30-0600-1000	30	+0.50/+2.50	600	1000

产品编码 Part No.:



*更多尺寸规格请查询网站 Please visit website for more specification: www.csb-ep.com

M81耐磨板 Anti-wear plates

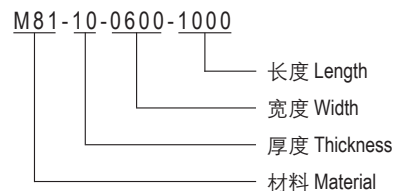


- 自润滑、免维护
- 低摩擦、耐磨损
- 抗冲击、低噪音
- 极低吸水性
- 耐低温-196℃
- Maintenance-free, self-lubricated
- Low friction, anti-wear
- Impact resistance, low noise
- Low water absorption
- Very low temperature -196℃

标准规格 Standard specifications

产品编码 Part No.	厚度 Thickness [mm]	公差 Tolerance [mm]	宽度 Width [mm]	长度 Length L [mm]
M81-10-0600-1000	10	+0.20/+2.50	600	1000
M81-15-0600-1000	15	+0.20/+2.50	600	1000
M81-20-0600-1000	20	+0.30/+2.50	600	1000
M81-25-0600-1000	25	+0.30/+2.50	600	1000
M81-30-0600-1000	30	+0.50/+2.50	600	1000
M81-35-0600-1000	35	+0.50/+2.50	600	1000
M81-40-0600-1000	40	+0.50/+2.50	600	1000

产品编码 Part No.:



EPB13耐磨板 Anti-wear plates

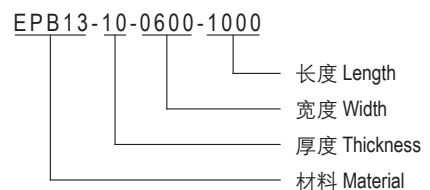


- 连续使用温度: -50/+90℃
- 适合干运行、免维护
- 不同轴材料磨损很小
- 较低的摩擦系数
- 适用于软轴
- 吸水性较低
- Continuous working temperature: -50/+90℃
- Maintenance-free dry operation
- Small wear off amount against various shaft materials
- Lower friction
- Suitable for soft shaft
- Low water absorption

标准规格 Standard specifications

产品编码 Part No.	厚度 Thickness [mm]	公差 Tolerance [mm]	宽度 Width [mm]	长度 Length L [mm]
EPB13-10-0600-1000	10	+0.20/+2.50	600	1000
EPB13-15-0600-1000	15	+0.20/+2.50	600	1000
EPB13-20-0600-1000	20	+0.30/+2.50	600	1000
EPB13-25-0600-1000	25	+0.30/+2.50	600	1000
EPB13-30-0600-1000	30	+0.50/+2.50	600	1000

产品编码 Part No.:



M81BK摩擦带 Tribo-tape made of M81BK



产品特性 Product features

- 连续使用温度: -196/+80℃
- 低摩擦系数
- 可用于水下环境
- 容易切割
- 标准宽度库存
- 宽度从20到100毫米
- Continuous working temperature: -196/+80℃
- Low coefficients of friction
- Available underwater
- Easy to cut
- Standard width from stock
- Individual widths from 20 to 100 mm

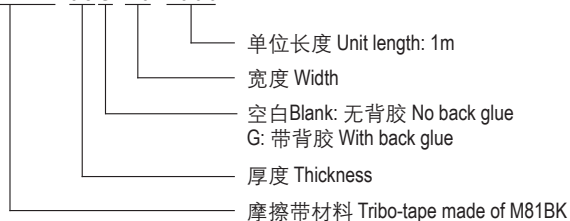
标准规格 Standard specifications

产品编码 Part No.	厚度 Thickness ± 0.015 [mm]	宽度 Width ± 0.2 [mm]	最大长度 Length Lmax. [m]	产品编码 Part No.	*厚度 Thickness ± 0.015 [mm]	宽度 Width ± 0.2 [mm]	最大长度 Length Lmax. [m]
M81BKT-05-10-1000	0.5	10	30	M81BKT-05G-10-1000	0.5	10	30
M81BKT-05-15-1000	0.5	15	30	M81BKT-05G-15-1000	0.5	15	30
M81BKT-05-20-1000	0.5	20	30	M81BKT-05G-20-1000	0.5	20	30
M81BKT-05-25-1000	0.5	25	30	M81BKT-05G-25-1000	0.5	25	30
M81BKT-05-30-1000	0.5	30	30	M81BKT-05G-30-1000	0.5	30	30
M81BKT-05-40-1000	0.5	40	30	M81BKT-05G-40-1000	0.5	40	30
M81BKT-05-50-1000	0.5	50	30	M81BKT-05G-50-1000	0.5	50	30
M81BKT-05-60-1000	0.5	60	30	M81BKT-05G-60-1000	0.5	60	30
M81BKT-05-80-1000	0.5	80	30	M81BKT-05G-80-1000	0.5	80	30
M81BKT-05-100-1000	0.5	100	30	M81BKT-05G-100-1000	0.5	100	30

*未包含背胶层厚度 Excluding adhesive layer thickness: 0.1mm

产品编码 Part No.:

M81BKT-05G-20-1000



*更多尺寸规格请查询网站 Please visit website for more specification: www.csb-ep.com