

Light Load Die Spring-Blue



Material	Color	Code									
Equivalent to SWOSC-V	blue	SIML									
Content	Error										
Load	±10%										
Shape angle	under 2°										
Free length	Tolerance	The method of load calculation: Load=Spring rate x compression $N=N/mm \times Fmm(kgf=N \times 0.101972)$ Soild height is the reference									
15~50	±0.5										
55~350	±1%										
Outer Dia.	Tolerance										
6~60	0 -0.7										
70	0 -1.0										
Code No.			Cycle life			1 million		0.5 million		0.3 million	
			Inner Dia. (mm)	Spring rate N/mm(Kgf/mm)	Soild height (mm)	F=Lx32%		F=Lx36%		F=Lx40%	
Code	Outer Dia. (mm)	Free length (mm)				Max compression F(mm)	Load (kgf)	Max compression F(mm)	Load (kgf)	Max compression F(mm)	Load (kgf)
SIML	6	15	3	13.1(1.33)	8.6	4.8	63 (6.4)	5.4	71 (7.2)	6	78 (8.0)
		20		9.8(1.00)	11.5	6.4		7.2		8	
		25		7.8(0.80)	14.4	8		9		10	
		30		6.5(0.67)	17.2	9.6		10.8		12	
		35		5.6(0.57)	20.1	11.2		12.6		14	
		40		4.9(0.50)	23	12.8		14.4		16	

Code No.			Cycle life			1 million		0.5 million		0.3 million	
Code	Outer Dia. (mm)	Free length (mm)	Inner Dia. (mm)	Spring rate N/mm(Kgf/mm)	Soild height (mm)	F=Lx32%		F=Lx36%		F=Lx40%	
						Max compression F(mm)	Load (kgf)	Max compression F(mm)	Load (kgf)	Max compression F(mm)	Load (kgf)
SIML	8	10	4	24.5(2.50)	5.4	3.2	78 (8.0)	3.6	88 (9.0)	4	98 (10.0)
		15		16.3(1.67)	8.1	4.8		5.4		6	
		20		12.3(1.25)	10.8	6.4		7.2		8	
		25		9.8(1.00)	13.5	8		9		10	
		30		8.2(0.83)	16.2	9.6		10.8		12	
		35		7.0(0.71)	18.9	11.2		12.6		14	
		40		6.1(0.63)	21.6	12.8		14.4		16	
		45		5.4(0.56)	24.3	14.4		16.2		18	
		50		4.9(0.50)	27	16		18		20	
		55		4.5(0.45)	29.7	17.6		19.8		22	
		60		4.1(0.42)	32.4	19.2		21.6		24	
		65		3.8(0.38)	37.3	20.8		23.4		26	
		70		3.5(0.36)	40.2	22.4		25.2		28	
		75		3.3(0.33)	43.1	24		27		30	
		80		3.1(0.31)	45.9	25.6		28.8		32	
SIML	10	10	5	34.3(3.50)	5.4	3.2	110 (11.2)	3.6	124 (12.6)	4	137 (14.0)
		15		22.9(2.33)	8.1	4.8		5.4		6	
		20		17.2(1.75)	10.8	6.4		7.2		8	
		25		13.7(1.40)	13.5	8		9		10	
		30		11.4(1.17)	16.2	9.6		10.8		12	
		35		9.8(1.00)	18.9	11.2		12.6		14	
		40		8.6(0.88)	21.6	12.8		14.4		16	
		45		7.6(0.78)	24.3	14.4		16.2		18	
		50		6.9(0.70)	27	16		18		20	
		55		6.2(0.64)	29.7	17.6		19.8		22	
		60		5.7(0.58)	32.4	19.2		21.6		24	
		65		5.3(0.54)	35.1	20.8		23.4		26	
		70		4.9(0.50)	37.8	22.4		25.2		28	
		75		4.6(0.47)	40.5	24		27		30	
		80		4.3(0.44)	43.2	25.6		28.8		32	
90	3.8(0.39)	48.6	28.8	32.4	36						

Code No.			Cycle life			1 million		0.5 million		0.3 million	
Code No.			Inner Dia. (mm)	Spring rate N/mm(Kgf/mm)	Soild height (mm)	F=Lx32%		F=Lx36%		F=Lx40%	
Code	Outer Dia. (mm)	Free length (mm)				Max compression F(mm)	Load (kgf)	Max compression F(mm)	Load (kgf)	Max compression F(mm)	Load (kgf)
SIML	12	15	6	34.3(3.50)	8.1	4.8	165 (17.0)	5.4	185 (19.0)	6	206 (21.0)
		20		25.7(2.63)	10.8	6.4		7.2		8	
		25		20.6(2.10)	13.5	8		9		10	
		30		17.2(1.75)	16.2	9.6		10.8		12	
		35		14.7(1.50)	18.9	11.2		12.6		14	
		40		12.9(1.31)	21.6	12.8		14.4		16	
		45		11.4(1.17)	24.3	14.4		16.2		18	
		50		10.3(1.05)	27	16		18		20	
		55		9.4(0.95)	29.7	17.6		19.8		22	
		60		8.6(0.88)	32.4	19.2		21.6		24	
		65		7.9(0.81)	35.1	20.8		23.4		26	
		70		7.4(0.75)	37.8	22.4		25.2		28	
		75		6.9(0.70)	40.5	24		27		30	
		80		6.4(0.66)	43.2	25.6		28.8		32	
		90		5.7(0.58)	48.6	28.8		32.4		36	
SIML	14	20	7	34.3(3.50)	10.8	6.4	220 (22.4)	7.2	247 (25.2)	8	275 (28.0)
		25		27.5(2.80)	13.5	8		9		10	
		30		22.9(2.33)	16.2	9.6		10.8		12	
		35		19.6(2.00)	18.9	11.2		12.6		14	
		40		17.2(1.75)	21.6	12.8		14.4		16	
		45		15.3(1.56)	24.3	14.4		16.2		18	
		50		13.7(1.40)	27	16		18		20	
		55		12.5(1.27)	29.7	17.6		19.8		22	
		60		11.4(1.17)	32.4	19.2		21.6		24	
		65		10.6(1.08)	35.1	20.8		23.4		26	
		70		9.8(1.00)	37.8	22.4		25.2		28	
		75		9.2(0.93)	40.5	24		27		30	
		80		8.6(0.88)	43.2	25.6		28.8		32	
		90		7.6(0.78)	48.6	28.8		32.4		36	
		100		6.9(0.70)	54	32		36		40	

			Cycle life			1 million		0.5 million		0.3 million	
Code No.			Inner Dia. (mm)	Spring rate N/mm(Kgf/mm)	Soild height (mm)	F=Lx32%		F=Lx36%		F=Lx40%	
Code	Outer Dia. (mm)	Free length (mm)				Max compression F(mm)	Load (kgf)	Max compression F(mm)	Load (kgf)	Max compression F(mm)	Load (kgf)
SIML	16	20	8	42.9(4.38)	10.8	6.4	275 (28.0)	7.2	309 (31.5)	8	343 (35.0)
		25		34.3(3.50)	13.5	8		9		10	
		30		28.6(2.92)	16.2	9.6		10.8		12	
		35		24.5(2.50)	18.9	11.2		12.6		14	
		40		21.5(2.19)	21.6	12.8		14.4		16	
		45		19.1(1.94)	24.3	14.4		16.2		18	
		50		17.2(1.74)	27	16		18		20	
		55		15.6(1.59)	29.7	17.6		19.8		22	
		60		14.3(1.46)	32.4	19.2		21.6		24	
		65		13.2(1.35)	35.1	20.8		23.4		26	
		70		12.3(1.25)	37.8	22.4		25.2		28	
		75		11.4(1.17)	40.5	24		27		30	
		80		10.7(1.09)	43.2	25.6		28.8		32	
		90		9.5(0.97)	48.6	28.8		32.4		36	
		100		8.6(0.88)	54	32		36		40	
125	6.9(0.70)	67.5	40	45	50						
SIML	18	20	9	52.7(5.38)	10.8	6.4	337 (34.4)	7.2	380 (38.7)	8	422 (43.0)
		25		42.2(4.30)	13.5	8		9		10	
		30		35.1(3.58)	16.2	9.6		10.8		12	
		35		30.1(3.07)	18.9	11.2		12.6		14	
		40		26.4(2.69)	21.6	12.8		14.4		16	
		45		23.4(2.39)	24.3	14.4		16.2		18	
		50		21.1(2.15)	27	16		18		20	
		55		19.2(1.95)	29.7	17.6		19.8		22	
		60		17.6(1.79)	32.4	19.2		21.6		24	
		65		16.2(1.65)	35.1	20.8		23.4		26	
		70		15.1(1.54)	37.8	22.4		25.2		28	
		75		14.1(1.43)	40.5	24		27		30	
		80		13.2(1.34)	43.2	25.6		28.8		32	
		90		11.7(1.19)	48.6	28.8		32.4		36	
		100		10.5(1.08)	54	32		36		40	
125	8.4(0.86)	67.5	40	45	50						

			Cycle life			1 million		0.5 million		0.3 million	
Code No.			Inner Dia. (mm)	Spring rate N/mm(Kgf/mm)	Soild height (mm)	F=Lx32%		F=Lx36%		F=Lx40%	
Code	Outer Dia. (mm)	Free length (mm)				Max compression F(mm)	Load (kgf)	Max compression F(mm)	Load (kgf)	Max compression F(mm)	Load (kgf)
SIML	20	20	10	53.0(5.40)	10.8	6.4	424 (43.2)	7.2	477 (48.6)	8	530 (54.0)
		25		53.0(5.40)	13.5	8		9		10	
		30		44.1(4.50)	16.2	9.6		10.8		12	
		35		37.8(3.86)	18.9	11.2		12.6		14	
		40		33.1(3.38)	21.6	12.8		14.4		16	
		45		29.4(3.00)	24.3	14.4		16.2		18	
		50		26.5(2.70)	27	16		18		20	
		55		24.1(2.45)	29.7	17.6		19.8		22	
		60		22.1(2.45)	32.4	19.2		21.6		24	
		65		20.4(2.08)	35.1	20.8		23.4		26	
		70		18.9(1.93)	37.8	22.4		25.2		28	
		75		17.7(1.80)	40.5	24		27		30	
		80		16.5(1.69)	43.2	25.6		28.8		32	
		90		14.7(1.50)	48.6	28.8		32.4		36	
		100		13.2(1.35)	54	32		36		40	
125	10.6(1.08)	67.5	40	45	50						
150	8.8(0.90)	81	48	54	60						
SIML	22	25	11	65.7(6.70)	13.5	8	526 (53.6)	9	591 (60.3)	10	657 (67.0)
		30		54.8(5.58)	16.2	9.6		10.8		12	
		35		46.9(4.79)	18.9	11.2		12.6		14	
		40		41.1(4.19)	21.6	12.8		14.4		16	
		45		36.5(3.72)	24.3	14.4		16.2		18	
		50		32.9(3.35)	27	16		18		20	
		55		29.9(3.05)	29.7	17.6		19.8		22	
		60		27.4(2.79)	32.4	19.2		21.6		24	
		65		25.3(2.39)	35.1	20.8		23.4		26	
		70		23.5(2.39)	37.8	22.4		25.2		28	
		75		21.9(2.23)	40.5	24		27		30	
		80		20.5(2.09)	43.2	25.6		28.8		32	
		90		18.3(1.86)	48.6	28.8		32.4		36	
		100		16.4(1.68)	54	32		36		40	
		125		13.1(1.34)	67.5	40		45		50	
150	11.0(1.12)	81	48	54	60						

			Cycle life			1 million		0.5 million		0.3 million	
Code No.			Inner Dia. (mm)	Spring rate N/mm(Kgf/mm)	Soild height (mm)	F=Lx32%		F=Lx36%		F=Lx40%	
Code	Outer Dia. (mm)	Free length (mm)				Max compression F(mm)	Load (kgf)	Max compression F(mm)	Load (kgf)	Max compression F(mm)	Load (kgf)
SIML	25	25	12.5	82.4(8.40)	13.5	8	659 (67.2)	9	741 (75.6)	10	824 (84.0)
		30		68.6(7.00)	16.2	9.6		10.8		12	
		35		58.8(6.00)	18.9	11.2		12.6		14	
		40		51.5(5.25)	21.6	12.8		14.4		16	
		45		45.8(4.67)	24.3	14.4		16.2		18	
		50		41.2(4.20)	27	16		18		20	
		55		37.4(3.82)	29.7	17.6		19.8		22	
		60		34.3(3.50)	32.4	19.2		21.6		24	
		65		31.7(3.23)	35.1	20.8		23.4		26	
		70		29.4(3.00)	37.8	22.4		25.2		28	
		75		27.5(2.80)	40.5	24		27		30	
		80		25.7(2.63)	43.2	25.6		28.8		32	
		90		22.9(2.33)	48.6	28.8		32.4		36	
		100		20.6(2.10)	54	32		36		40	
		125		16.5(1.68)	67.5	40		45		50	
		150		13.7(1.40)	81	48		54		60	
		175		11.8(1.20)	94.5	56		63		70	
200	10.3(1.05)	108	64	72	80						
SIML	27	25	13.5	98.1(10.00)	13.5	8	785 (80.0)	9	883 (90.0)	10	981 (100.0)
		30		81.7(8.33)	16.2	9.6		10.8		12	
		35		70.0(7.14)	18.9	11.2		12.6		14	
		40		61.3(6.25)	21.6	12.8		14.4		16	
		45		54.5(5.56)	24.3	14.4		16.2		18	
		50		49.0(5.00)	27	16		18		20	
		55		44.6(4.55)	29.7	17.6		19.8		22	
		60		40.9(4.17)	32.4	19.2		21.6		24	
		65		37.7(3.85)	35.1	20.8		23.4		26	
		70		35.0(3.57)	37.8	22.4		25.2		28	
		75		32.7(3.33)	40.5	24		27		30	
		80		30.6(3.13)	43.2	25.6		28.8		32	
		90		27.2(2.78)	48.6	28.8		32.4		36	
		100		24.5(2.50)	54	32		36		40	
		125		19.6(2.00)	67.5	40		45		50	
		150		16.3(1.67)	81	48		54		60	
		175		14.0(1.43)	94.5	56		63		70	
200	12.3(1.25)	108	64	72	80						

Code No.			Cycle life			1 million		0.5 million		0.3 million	
Code	Outer Dia. (mm)	Free length (mm)	Inner Dia. (mm)	Spring rate N/mm(Kgf/mm)	Soild height (mm)	F=Lx32%		F=Lx36%		F=Lx40%	
						Max compression F(mm)	Load (kgf)	Max compression F(mm)	Load (kgf)	Max compression F(mm)	Load (kgf)
SIML	30	25	15	118.7(12.10)	13.5	8	949 (96.6)	9	1067 (108.8)	10	1188 (121.0)
		30		98.9(10.08)	16.2	9.6		10.8		12	
		35		84.8(8.64)	18.9	11.2		12.6		14	
		40		74.2(7.56)	21.6	12.8		14.4		16	
		45		65.9(6.72)	24.3	14.4		16.2		18	
		50		59.3(6.05)	27	16		18		20	
		55		53.9(5.50)	29.7	17.6		19.8		22	
		60		49.4(5.04)	32.4	19.2		21.6		24	
		65		45.6(4.65)	35.1	20.8		23.4		26	
		70		42.4(4.32)	37.8	22.4		25.2		28	
		75		39.6(4.03)	40.5	24		27		30	
		80		37.1(3.78)	43.2	25.6		28.8		32	
		90		33.0(3.36)	48.6	28.8		32.4		36	
		100		29.7(3.03)	54	32		36		40	
		125		23.7(2.42)	67.5	40		45		50	
		150		19.8(2.02)	81	48		54		60	
		175		17.0(1.73)	94.5	56		63		70	
200	14.8(1.51)	108	64	72	80						
SIML	35	40	17.5	101.1(10.31)	21.6	12.8	1294 (131.8)	14.4	1455 (148.4)	16	1617 (165.0)
		45		89.9(9.17)	24.3	14.4		16.2		18	
		50		80.9(8.25)	27	16		18		20	
		55		73.5(7.50)	29.7	17.6		19.8		22	
		60		67.4(6.88)	32.4	19.2		21.6		24	
		65		62.2(6.35)	35.1	20.8		23.4		26	
		70		57.8(5.89)	37.8	22.4		25.2		28	
		75		53.9(5.50)	40.5	24		27		30	
		80		50.6(5.16)	43.2	25.6		28.8		32	
		90		44.9(4.58)	48.6	28.8		32.4		36	
		100		40.5(4.13)	54	32		36		40	
		125		32.4(3.30)	67.5	40		45		50	
		150		27.0(2.75)	81	48		54		60	
		175		23.1(2.36)	94.5	56		63		70	
		200		20.2(2.06)	108	64		72		80	

Code No.			Cycle life			1 million		0.5 million		0.3 million	
Code	Outer Dia. (mm)	Free length (mm)	Inner Dia. (mm)	Spring rate N/mm(Kgf/mm)	Soild height (mm)	F=Lx32%		F=Lx36%		F=Lx40%	
						Max compression F(mm)	Load (kgf)	Max compression F(mm)	Load (kgf)	Max compression F(mm)	Load (kgf)
SIML	40	40	20	132.4(13.50)	21.6	12.8	1694 (172.7)	14.4	1905 (194.3)	16	2117 (216.0)
		45		117.7(12.00)	25.8	14.4		16.2		18	
		50		105.9(10.80)	27	16		18		20	
		55		96.3(9.82)	31.6	17.6		19.8		22	
		60		88.3(9.00)	32.4	19.2		21.6		24	
		65		81.5(8.31)	37.3	20.8		23.4		26	
		70		75.7(7.71)	37.8	22.4		25.2		28	
		75		70.6(7.20)	43.1	24		27		30	
		80		66.2(6.75)	45.9	25.6		28.8		32	
		90		58.8(6.00)	48.6	28.8		32.4		36	
		100		53.0(5.40)	54	32		36		40	
		125		42.4(4.32)	67.5	40		45		50	
		150		35.3(3.60)	81	48		54		60	
		175		30.3(3.09)	94.5	56		63		70	
		200		26.5(2.70)	108	64		72		80	
		225		23.5(2.40)	122	72		81		90	
		250		21.2(2.16)	135	80		90		100	
		275		19.3(1.96)	149	88		99		110	
300	17.7(1.80)	172.2	96	108	120						
SIML	50	50	25	165.7(16.90)	27	16	2650 (270.0)	18	2081 (304.0)	20	3312 (338.0)
		55		150.7(15.36)	29.7	17.6		19.8		22	
		60		138.1(14.08)	32.4	19.2		21.6		24	
		65		127.5(13.00)	35.1	20.8		23.4		26	
		70		118.4(12.07)	37.8	22.4		25.2		28	
		75		110.5(11.27)	40.5	24		27		30	
		80		103.6(10.56)	43.2	25.6		28.8		32	
		90		92.1(9.39)	48.6	28.8		32.4		36	
		100		82.9(8.45)	54	32		36		40	
		125		66.3(6.76)	67.5	40		45		50	
		150		55.2(5.63)	81	48		54		60	
		175		47.4(4.83)	94.5	56		63		70	
		200		41.4(4.23)	108	64		72		80	
		225		36.8(3.76)	122	72		81		90	
250	33.1(3.38)	135	80	90	100						

		275		30.1(3.07)	149	88		99		110	
		300		27.6(2.82)	172.2	96		108		120	
		350		23.7(2.41)	200.9	112		126		140	
		400		20.7(2.11)	216	128		144		160	
		450		18.4(1.88)	243	144		162		180	
		500		16.6(1.69)	270	160		180		200	
			Cycle life			1 million		0.5 million		0.3 million	
Code No.			Inner Dia. (mm)	Spring rate N/mm(Kgf/mm)	Soild height (mm)	F=Lx32%		F=Lx36%		F=Lx40%	
Code	Outer Dia. (mm)	Free length (mm)				Max compression F(mm)	Load (kgf)	Max compression F(mm)	Load (kgf)	Max compression F(mm)	Load (kgf)
SIML	60	60	30	198.6(20.25)	32.4	19.2	3816 (389.0)	21.6	4293 (438.0)	24	4770 (486.0)
		70		170.2(17.36)	37.8	22.4		25.2		28	
		80		148.9(15.19)	43.2	25.6		28.8		32	
		90		132.4(13.50)	48.6	28.8		32.4		36	
		100		119.2(12.15)	54	32		36		40	
		125		95.3(9.72)	67.5	40		45		50	
		150		79.4(8.10)	81	48		54		60	
		175		68.1(6.94)	94.5	56		63		70	
		200		59.6(6.08)	108	64		72		80	
		225		53.0(5.40)	122	72		81		90	
		250		47.7(4.86)	135	80		90		100	
		275		43.3(4.42)	149	88		99		110	
		300		39.7(4.05)	172.2	96		108		120	
		350		34.0(3.47)	200.9	112		126		140	
		400		29.8(3.04)	216	128		144		160	
		450		26.5(2.70)	243	144		162		180	
500	23.8(2.43)	270	160	180	200						
SIML	70	70	38.5	213.7(21.8)	40.2	22.4	4782 (488.0)	25.2	5380 (549.0)	28	5978 (610.0)
		80		186.9(19.1)	45.9	25.6		28.8		32	
		90		166.2(16.9)	51.7	28.8		32.4		36	
		100		179.6(15.3)	57.4	32		36		40	
		125		119.6(12.2)	71.8	40		45		50	
		150		99.7(10.2)	86.1	48		54		60	
		175		85.5(8.7)	100.5	56		63		70	
		200		74.8(7.6)	114.8	64		72		80	
		250		59.8(6.1)	143.5	80		90		100	
		300		49.9(5.1)	172.2	96		108		120	
350	42.7(4.4)	200.9	112	126	140						