



HIGH PERFORMANCE

Polyuréthane

STRATHANE®
PIÈCES MOBILES



Custom parts - Springs - Rollers



Elastomeric polyurethane solutions to improve the mechanical performance of industrial equipment.

The diversity of Strathane formulations allows the construction of parts for all applications.

With or without inserts, our molding technique allows the production of parts with the widest range of rigidity. We supply components from a few grams to several hundred kilos

CEF POLYMERES Flexibility and Performance

- 2D 3D CAD design office
- Integrated tooling design
- Specific calculation software for the characterization of elastomers
- Means of control and tests
- Abrasion, Elongation, Compression, Traction
- Material control
- Quality management ISO 9001





HIGH PERFORMANCE POLYURETHANE CASTING



M serie	Hardness Shore A
Good chemical resistance	80
Excellent mechanical properties	90
High hardness available until 72 Sh D	95
Good hydrolisys resistance	98
Available for low tempature	99

R serie	Hardness Shore A
High abrasion resistance	50
Good oil solvant resistance	55 60
Tear resistance	65 70
Good resilience	75 80
Whole hardness range	90 95

U serie	Hardness Shore A
Load capacity	70
Superior dynamic properties	80
Excellent resistance to internal heat	92
Good chemicals resistance	95

T serie	Hardness Shore A
For food industry and water compliance	65 70 90 90 95

W serie	Hardness Shore A
Dampenning	25 35 45 55

- Range of formulation pread hardness from 25 to 99 Shore A
- High elasticity
- Resistance to the raised abrasion
- Shock resistance exceptional
- High capacity to damping
- Capacity of load raised
- Very good electric insulation
- Use until a temperature of 100 ° c continuously
- Excellent ageing resistance
- Excellent resistance to the water, to the light and to the ozone
- Very good resistance to the chemical agents
- Easy gluing



- Bonding on insert steel, aluminum, cast iron, composite
- High and constant Impact strength
- High extension before break
- Excellent resistance in flexion
- Very good resistance in microorganisms
- Easy machining from 90 Sh A
- Low tooling cost easy process



Applicable tolerances

Moulding DIN ISO 3302-1 M3

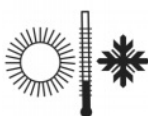
Machining, cutting, cutting to size according to hardness, consult us



Hardness

For elastomers measured in Sh A on high hardnesses 98 and 99 an equivalence Sh D can be given Tolerance M/UR/U series Hardness $\pm 3^\circ$ Sh A R series Hardness ± 5 Sh A

For some productions ± 2 is possible



Low temperature property

Many STRATHANE elastomers remain flexible at very low temperatures and have exceptional thermal shock resistance.

The low temperature resistance

allows applications below 0°C .

Strathane becomes brittle at -70°C

High temperature property Strathane performs well up to 100°C continuously.

For higher temperatures, please contact us.

Abrasion properties



Strathane has a lifespan 5 to 10 times longer than rubber elastomers.

We must distinguish several forms of abrasion

Dry abrasion by contact

Dry abrasion by projection

Wet abrasion in contact

Wet abrasion by projection



Density

Between 1 and 1.24 these very light materials allow the realization of complex, voluminous and light parts

Thermal resistance property

Strathane is a very good insulator but a poor conductor of heat. This fact must be taken into account when designing parts for dynamic applications involving internal heating.

Friction properties

Coefficient of friction for

420M 80 Sh A	0.70
100M 90 Sh A	0.62
167M 95 Sh A	0.55
315M 99 Sh A	0.23

Indicative values, different according to the support

Property bonding Strathane other materials



After degreasing and abrading the surfaces, Strathane can be bonded with a 2-component epoxy adhesive or cyanoacrylate. We recommend LOCTITE 330

By heat bonding after a specific treatment of the metal insert or other. Recommended solution for maximum tear strength



Electrical properties

They are excellent in low voltage. Strathane can be used for circuit insulation. Do not use it for high voltage.

Impact resistance property

Strathane resists extreme dynamic stress. The 315M formulation, whose rigidity is comparable to polyamide resists better than usual thermoplastics.



Dynamic property

Polyurethanes have poor thermal conductivity. Consequently, it heats up and the time to dissipate the internal heating is important. It is therefore preferable to determine the terms of use. U and V grades are more efficient for these applications. Although they are more expensive, they guarantee better properties when the part is subjected to dynamic stress: high compression rate, high load per cm², operating cycle.





Water resistance

Depending on the type, polyether elastomers are resistant to the effects of water immersion and have excellent long-term stability in water up to 50 °C.

Use in hot water above 80 °C is not recommended for standard systems.

Water absorption is very low, 0.3 to 1.0 % by weight.

Chemical resistance

Strathane is a material that is generally resistant to chemicals. Depending on our formulations, M/R/U series, polyether or polyester, we can communicate the specific resistance of each chemical component.



Radiation resistance

Strathane elastomers are considered to have a better resistance to gamma radiation. They retain a high capacity of their initial flexibility

Resistance to atmospheric conditions

Components produced from Strathane elastomers are highly resistant to degradation by atmospheric oxygen and ozone. Tests on samples, lasting more than 500 hours in an atmosphere containing 3ppm ozone, show no degradation.



Mechanical strength



STRATHANE elastomers are characterized by high elongation, high tensile strength and high modulus. This offers a combination of toughness and durability compared to conventional elastomers. Tensile tests are performed on a Traction Compression Press. In this test, we are interested in the shape of the overall stress strain curve

Resilience

The resilience of conventional elastomers is generally a function of hardness. This often undesirable relationship does not hold true with Strathane elastomers. Our elastomers are available in a wide range of resilience.

For shock absorbing elastomers a low rebound is recommended. A resilience between 10 and 50% is recommended. For high frequency vibrations or when force restitution is required, a resilience between 50 and 65% is preferred.



Spring



Sheet



Tubes



Rod



Preload spring



Damper



Stripper



Spring



Ejector



Washer



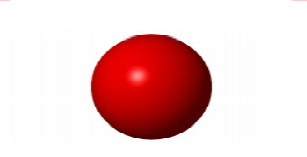
Wheel



Handling roller



Ball



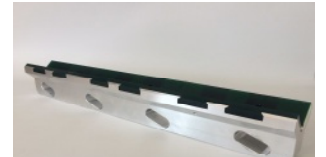
Wheel



Anti crush roller



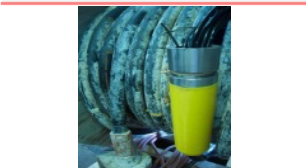
Scraper with aluminium



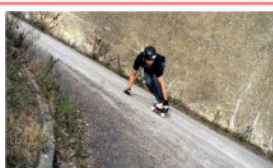
Electric isolation



Protection hydraulic



Wheel high speed longboard



Handling dolly



Air spring



Damper
Bonded with metal



Robotics



Frame
protection



Screen



Hydrocyclone



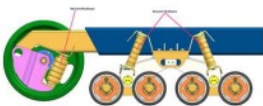
Potection



Fexibe damper



Suspension



Shock protection



Fixing item



Support & Protection
Vehicle body part



Scraper



Wheel
handling



Gearbox support
Engine support



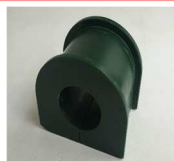
Protection



Snow



Bushing



Offshore



Strathane on
bearings



R SERIE

Resistance to oils solvents chemicals acting

Superior abrasion resistance

Optimum tear resistance

Wide range of hardness

Hot casting moulding

Post curing in oven

Options

R-UV Uv resistance

R-AA Up grade abrasion loss

R-AF Fire resistance

R-AS Antistatic

		R				
Hardness	Shore a	45	50	55	60	65
Color						
Hardness tolerance		+- 5				
Production available		O.R	✓	✓	✓	✓

		R						
Dureté	Shore A	70	75	80	85	90	95	
Couleur								
Tolérance dureté		+- 5						
Production available		✓	✓	✓	✓	✓	✓	O.R

Optionnal color

Regarding quantity



		STRATHANE®								
		450 R	550R	600R	650R	700 R	750R	800 R	850 R	900R 950R
Specific gravity	g/cm3	1,20 - 1,22								
Temperature	°C	80°C continue 110° short times								
Tensile strenght	Mpa		31	37	43	54	56	56	57	56 47
Elongation break DIN 53504	%		615	550	530	520	520	520	515	515 465
10% Modulus DIN 53504	Mpa		0,5	0,6	0,7	1	1,2	1,6	2,3	3,1 4,9
100% Modulus DIN 53504	Mpa	1,6	1,8	2,3	2,9	8,2	4,5	5,3	6,9	8,4 11,2
300% Modulus DIN 53504	Mpa	-	2,9	4,3	5,8	6,5	9,6	11,4	15,2	16 20,5
Resilience DIN 53512	%	31	65	63	67	63	54	53	49	46 45
Tear strenght without nick	KN/m	8	42	48	61	73	80	92	105	120 138
Compression set ISO 815-1 22H 70°	%	5	38	32	31	28	25	23	24	29 31
Abrasion loss ISO 4649	mm3		20	20	20	20	20	25	25	30 30

The following information are value of results of tests are given in good faith without warranty

M SERIE

Resistance to oils solvants chemicals acting

Superior abrasion resistance

Optimum tear resistance

Wide range of hardness

Hot casting moulding

Post curing in oven

Options

R-UV Uv resistance

R-AA Up grade abrasion loss

R-AF Fire resistance

R-AS Antistatic

Série M					
Hardness	Shore A	80	90	95	98 99
Color					 
Hardness tolerance	+/- 3 Sh A				

Série M					
Hardness	Shore A	80	90	95	98 99
Production available		✓	✓	✓	✓ ✓

		STRATHANE®				
		420M	100M	167M	200M	315M
Hardness	Sh A	80	90	95	98	99
Hardness	Sh D				59	73
Specific gravity	g / cm3	1,09	1,10	1,13	1,15	1,17
Temperatrure	°C	80°C continue 110°C courte période				
Elongation break DIN 53504	Mpa	45	50	50	45	42
Tensile strenght DIN 53504	Mpa	500	480	470	410	305
10% Modulus DIN 53504	Mpa	2,1	3,7	5,5	13,5	34,9
100% Modulus DIN 53504	Mpa	5,9	8,6	12	19,8	33
300% Modulus DIN 53504	Mpa	13,2	19,7	24,8	31,4	42
Resilience DIN 53512	Mpa	45	42	39	45	48
Tear strenght without nick	Mpa	92	120	140	180	248
Compression set ISO 815-1 22H 70°	%	20	25	25	35	50
Abrasion loss ISO 4649	mm3	35	40	40	60	80
Friction coef		0,7	0,6	0,53		0,20

The following information are value of results of tests are given in good faith without warranty

Polyester 4 composants

Hot casting

Post curing in oven

Maturation times

Polyurethane for:

Very good dynamic properties

Good resistance to internal heat

High resilience

Série U

Hardness	Shore A	70	80	92
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Color			
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Hardness tolerance	+/- 3 Sh A
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Production	On request
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Option

Other color	
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STRATHANE®**70 U****80 U****92 U**

Specific gravity	g / cm3
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1,21

Temperature	°C
-------------	----

80°C continuous
110°C short time

Tensile strenght	Mpa
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47

50

60

Elongation break DIN 53504	%
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490

470

430

10% Modulus DIN 53504	Mpa
-----------------------	-----

1,2

1,8

5

100% Modulus DIN 53504	Mpa
------------------------	-----

3,2

4,8

10,6

300% Modulus DIN 53504	Mpa
------------------------	-----

6,5

9,7

21,5

Resilience DIN 53512	%
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63

57

42

Tear strenght without nick	KN/m
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60

77

128

Compression set ISO 815-1 22H 70°	%
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20

25

25

Abrasion loss ISO 4649	mm3
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40

45

50

The following information are value of resluts of tests are given in good faith without warranty

.Approval**Food contact****Water ACS**

Polyester 3 composants

Hot casting

Post curing in oven

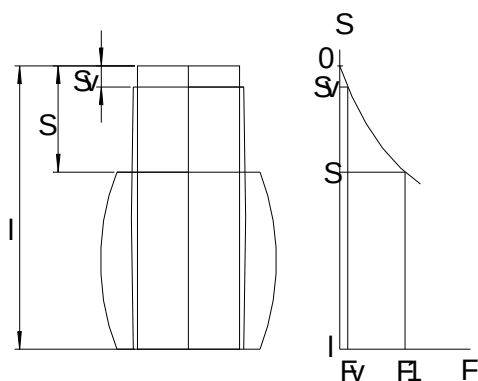
Maturation times

Production on request

		Série T				
Hardness	Shore A	65	70	80	90	95
Color		☐	☐	☐	☐	☐
Hardness tolerance		+/- 3				
Production		On request				

		STRATHANE®				
		650T	700T	800T	900T	950T
Hardness	Sh A	80	70	80	90	95
Hardness	Sh D					
Specific gravity	g / cm3	1,07	1,08	1,09	1,10	1,13
Temperature	°C	80°C continue 110°C courte période				
Tensile strenght	Mpa	27	29	35	41	41
Elongation break DIN 53504	Mpa	490	460	500	480	470
10% Modulus DIN 53504	Mpa	0.9	1.1	1.7	4.3	7.2
100% Modulus DIN 53504	Mpa	2.4	3.4	5	9.8	14.1
300% Modulus DIN 53504	Mpa	5.3	7.9	11	18.1	23.4
Resilience DIN 53512	%	75	74	66	53	47
Tear strenght without nick	KN/m	46	58	83	125	160
Compression set ISO 815-1 22H 70°	%	14	12	12	19	23
Abrasion loss ISO 4649	mm3	50	50	45	50	50

The following information are value of resluts of tests are given in good faith without warranty



Série	500R 550R 600R 650 R 700R	CR	800 R 420 M	100 M	167 M	U90
Stroke Max.	35%	40%	30%	25%	20%	30%
Creep value compression max	4-6%	3-5%	5-7%	7-9%	8-10%	5-6%

Stroke (S)

The value on the table are the maximum spring stroke on the original height

Creep factor (S_s)

The creep factor of the spring depend of the % of compression, ambient temperature and also typ of raw material.

The value given result of our experience. Les données indiquées renvoient à des valeurs concrètes, obtenues à 10^4 alternances.

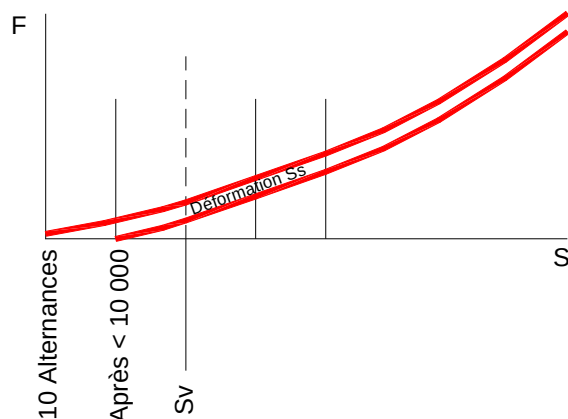
For security service choose a load more higher

Value available for Strathane series :

M / R / U / UR 90 Sh A +/- **30 %** (factor 1,3)

M / R / U / UR 80 Sh A +/- **20 %** (factor 1,2)

M / R 70 Sh A and less +/- **10 %** (factor 1,1)



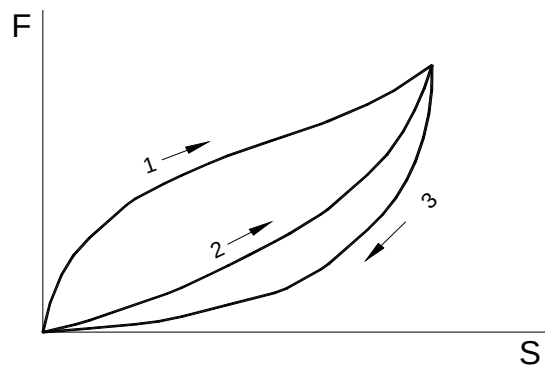
Preload (Sv)

In order a positive spring response the spring will have to be preloaded by an amount > than the creep factor to ensure a positive-locking spring

Force / Deflection curve

The initial force is maximal. For knowing and approach the real curve Force/Deflection each spring should be 10th subject to complete cycle Load and Unload.

DIN ISO 10069.1

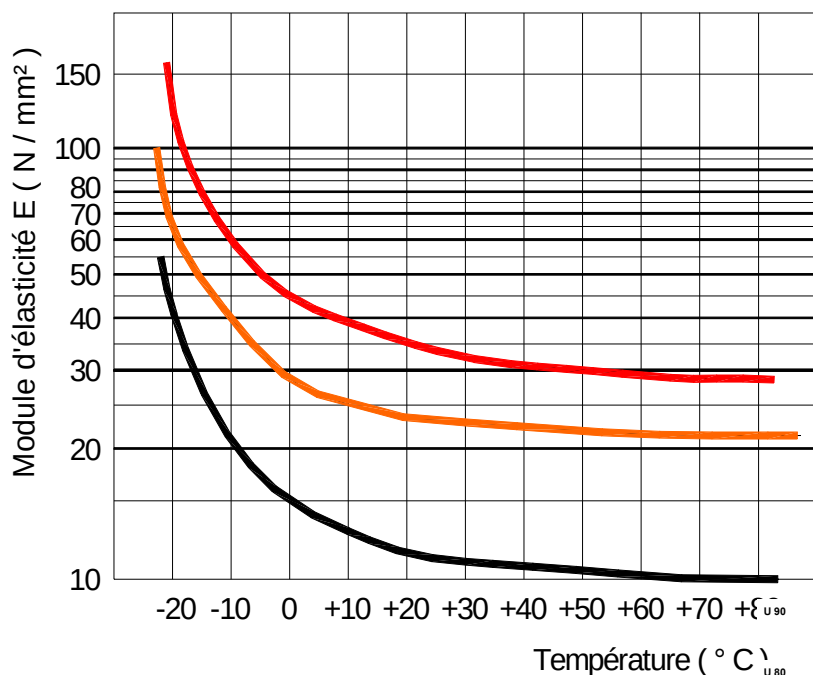
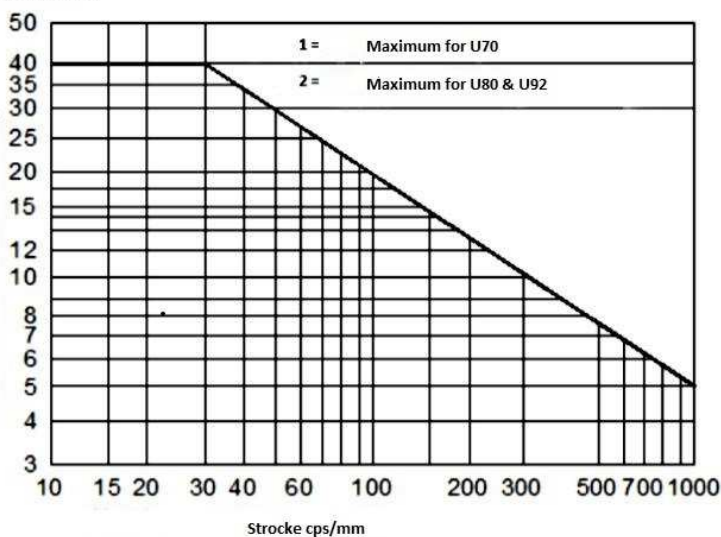


1 Compression curve = 1 st Load charge

2 Compression curve = 10 st Load charge

3 Return curve = 1 + 3

% Compression



295

Frequency of strokes

The number of races/minute in dynamic continuous use must be always taken into account. An increase of the speed corresponds to a decrease of the % of compression.

By staying below the limit value, the longevity increases because of the low heating (Hysteresis).

Temperature resistance

The operating range is – 20° C to + 80° C
For short term – 40° C to + 120° C are Possible.

Any material subjected to a deformation and an internal friction warms up. The characteristics of the spring are determined by the module of elasticity according to the temperature and geometrical shape

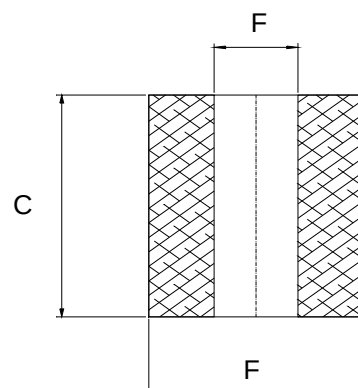
The elastic propertie and is E/modul depend of temperature see diagram

Tolerances

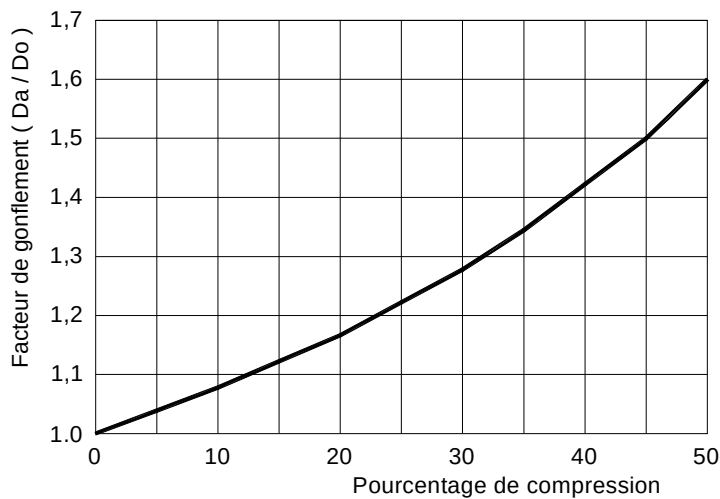
Dimensional
Norm DIN ISO 3302-1 M3
Temperature Reference + 20 °C.

Hardness
Norm DIN ISO 3302-1
± 3 Shore A for serie M/U/UR
± 5 Shore A for serie R

Diameter (mm)	F ± mm	C ± mm
Up to 6,3	0,25	0,4
> 6,3 to 10	0,3	0,5
> 10 to 16	0,4	0,6
> 16 to 25	0,5	0,8
> 25 to 40	0,6	1,0
> 40 to 63	0,8	1,3
> 63 to 100	1,0	1,6
> 100 to 160	1,3	2,0



R SERIE



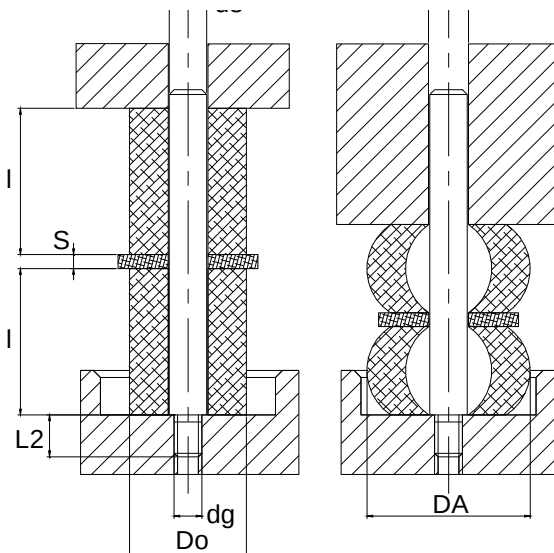
Directives of assembly

Springs can be separately used, in parallel or stacked. Their behavior power / running is in compliance with the laws of well known elasticity of the traditional springs.

The directives of assembly below must be respected to reach a maximum use.

Implementation

Elastomers are incompressible. Their deformation under load is translated by an inflation. It means that the percentage of inflation is equal to the percentage of compression. It is thus essential to check the curve of inflation to determine and define locations and spaces of safety.



Surfaces of support

The faces of support must be smooth. They can be flat, concave or convex. In this last case the diameter of the face of support owes. If mounted in a recess, the clearance DA must be adapted to the bulge factor (see diagram)

Contact surface

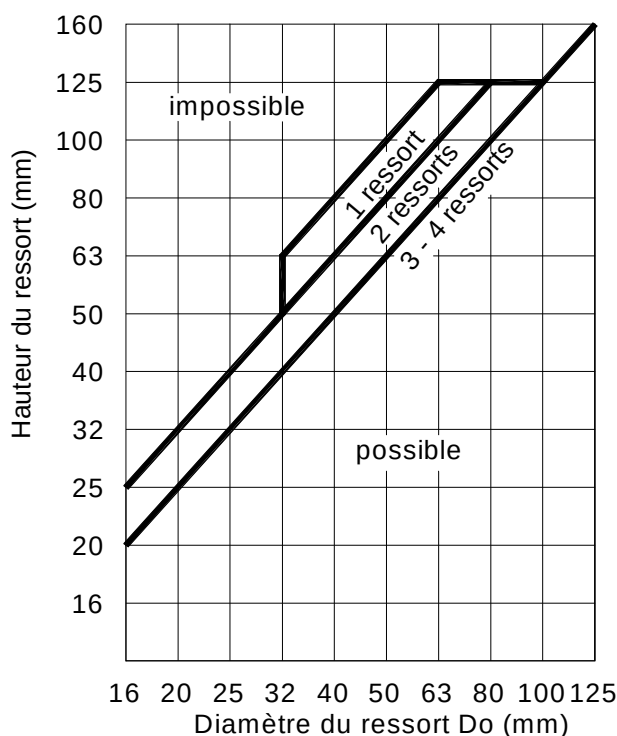
Should be smooth Rz 25 to Rz 40 in accordance to DIN ISO 10069-1. They can be flat, elevated, or in a recess. The diameter Do must at least equal of the spring diameter.

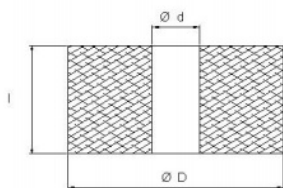
Guidance spring

To guide, center, avoid the frictions and the risk of buckling it's better to use guide bolt. These are essential in case of stacking.

Stacking

We obtain a greater stroke we need stacking springs. They will be guided to increase their longevity and separated from each other by slices washers to preserve their autonomy of deformation. Under the same power, the stroke add up. Greasing guide bolt axis is required.





Sizes norm DIN ISO 10069

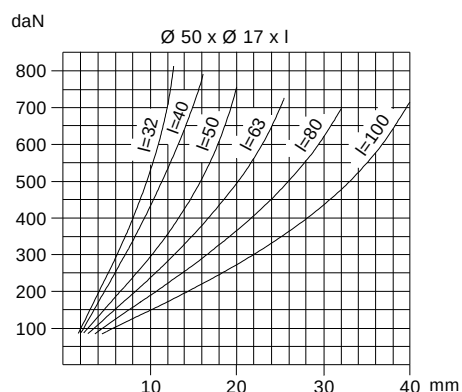
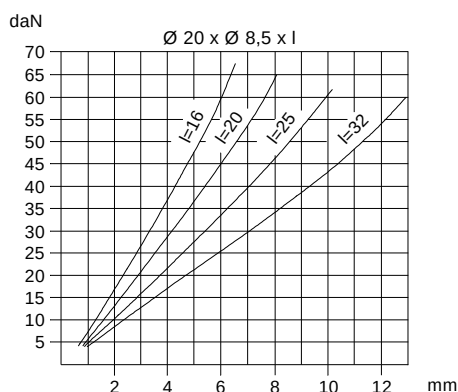
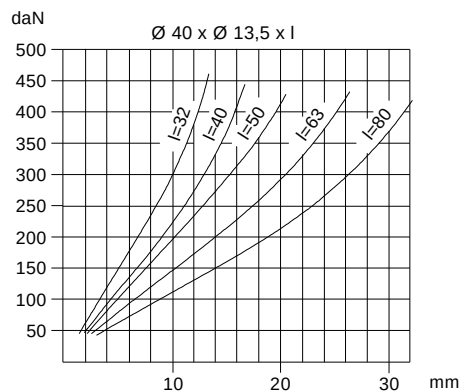
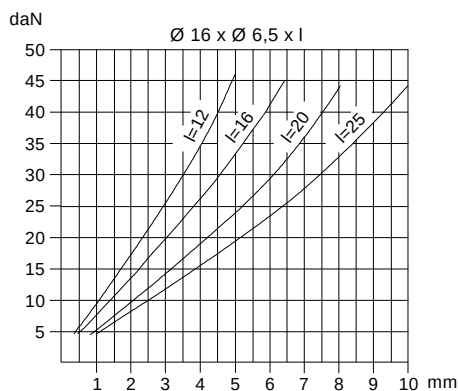
Others quality

930 UR

100M green 90 Sh A 167M Brown 95 Sh A

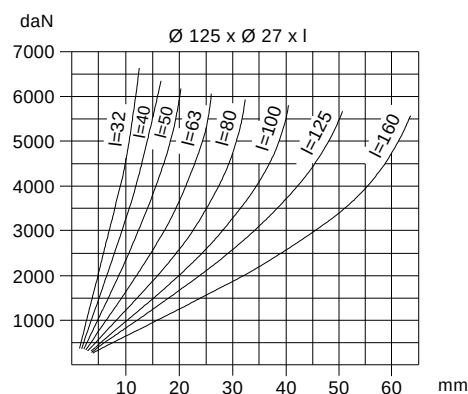
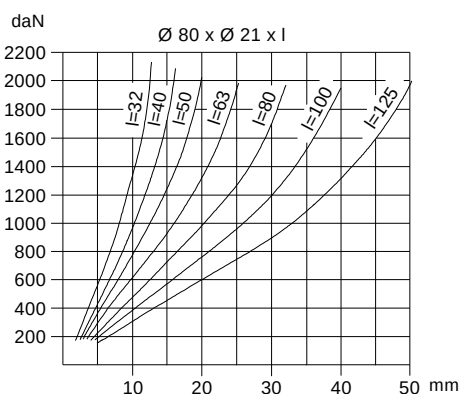
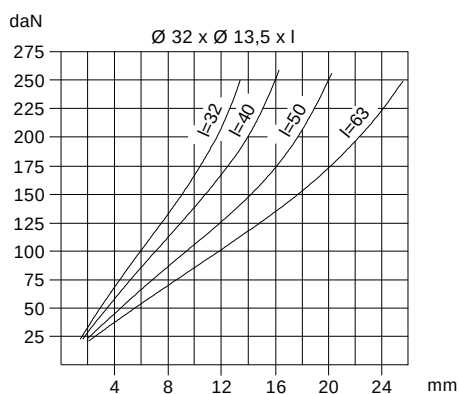
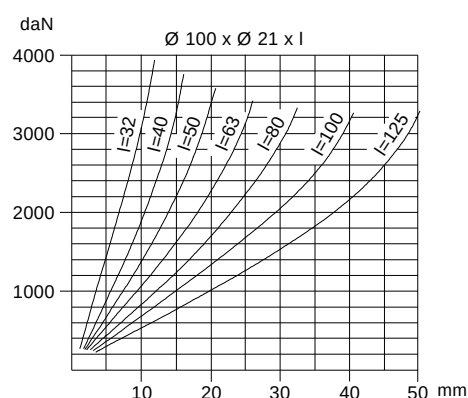
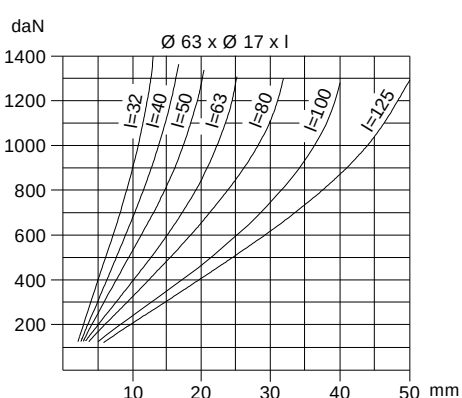
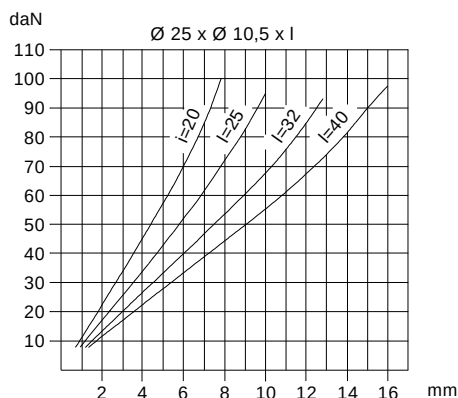
R serie 45/50/55/60/65 Sh A

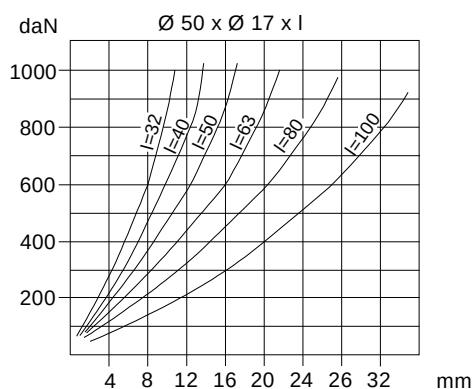
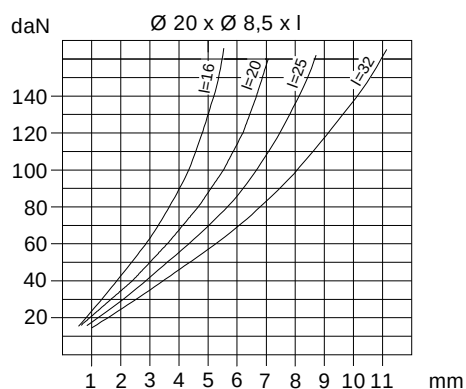
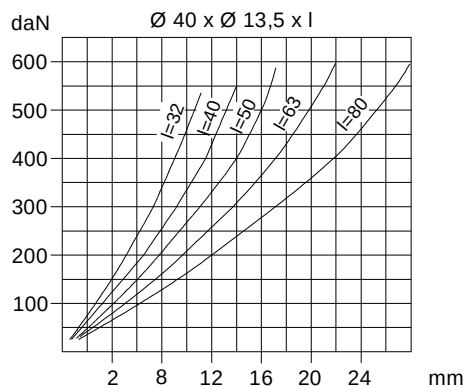
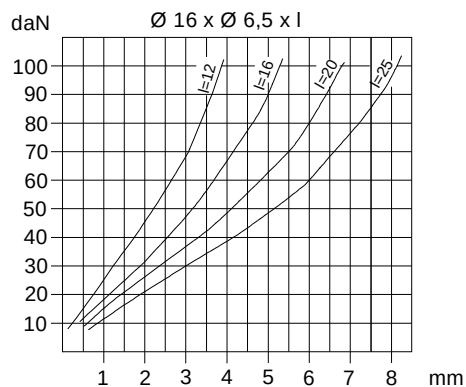
Dimension			U70				U80				U90					
D	d	l	Compr. 20%		Compr. 40%		Compr. 15%		Compr. 35%		Compr. 15%		Compr. 30%			
			F daN	C mm	F daN	C mm	F daN	C mm	F daN	C mm	F daN	C mm	F daN	C mm		
16	6,5	12	CR	20	2,40	4,80	420M	40	1,80	4,20	100	5,60	U92	60	1,80	3,60
		3,20			6,40	2,40			7,00	2,40		4,80				
		4,00			8,00	3,00			8,70	3,00		6,00				
		5,00			10,00	3,70			8,70	3,70		7,50				
20	8,5	16	CR	30	3,20	6,40	420M	50	2,40	5,60	160	7,00	U92	120	2,40	4,80
		4,00			8,00	3,00			8,70	3,00		6,00				
		5,00			10,00	3,70			8,70	3,70		7,50				
		6,40			12,80	4,80			11,20	4,80		9,60				
25	10,5	20	CR	45	4,00	8,00	420M	100	3,00	7,00	240	8,70	U92	200	3,00	6,00
		5,00			10,00	3,80			11,20	3,80		7,50				
		6,40			12,80	4,80			14,00	4,80		9,60				
		8,00			16,00	6,00			14,00	6,00		12,00				
32	13,5	32	CR	120	6,40	12,80	420M	150	4,80	11,20	400	17,50	U92	250	4,80	9,60
		8,00			16,00	6,00			14,00	6,00		12,00				
		10,00			20,00	7,50			17,50	7,50		15,00				
		12,60			25,20	9,40			22,00	9,40		18,90				
40	13,5	32	CR	230	6,40	12,80	420M	180	4,80	11,20	550	17,50	U92	450	4,80	9,60
		8,00			16,00	6,00			14,00	6,00		12,00				
		10,00			20,00	7,50			17,50	7,50		15,00				
		12,60			25,20	9,40			22,00	9,40		18,90				
50	17,0	40	CR	340	8,00	16,00	420M	300	6,00	14,00	1000	22,00	U92	800	6,00	12,00
		10,00			20,00	7,50			17,50	7,50		15,00				
		12,60			25,20	9,40			22,00	9,40		18,90				
		16,00			32,00	12,00			28,00	12,00		24,00				
63	17	50	CR	600	10,00	20,00	420M	600	7,50	17,50	1600	22,00	U92	1250	7,50	15,00
		12,60			25,20	9,40			22,00	9,40		18,90				
		16,00			32,00	12,00			28,00	12,00		24,00				
		20,00			40,00	15,00			35,00	15,00		30,00				
80	21	50	CR	800	10,00	20,00	420M	750	7,50	17,50	2200	22,00	U92	2000	7,50	15,00
		12,60			25,20	9,40			22,00	9,40		18,90				
		16,00			32,00	12,00			28,00	12,00		24,00				
		20,00			40,00	15,00			35,00	15,00		30,00				
100	21	50	CR	1700	10,00	20,00	420M	1400	7,50	17,50	4000	22,00	U92	3200	7,50	15,00
		12,60			25,20	9,40			22,00	9,40		18,90				
		16,00			32,00	12,00			28,00	12,00		24,00				
		20,00			40,00	15,00			35,00	15,00		30,00				
125	27	50	CR	2000	10,00	20,00	420M	2000	7,50	17,50	7000	22,00	U92	6000	7,50	15,00
		12,80			25,20	9,40			22,00	9,40		18,90				
		16,00			32,00	12,00			28,00	12,00		24,00				
		20,00			40,00	15,00			35,00	15,00		30,00				
125	27	80	CR	2000	16,00	32,00	420M	2000	12,00	28,00	7000	35,00	U92	6000	12,00	24,00
		100			20,00	40,00			15,00	35,00		15,00			30,00	
		125			25,00	50,00			18,75	43,75		18,75			37,50	
		160			32,00	64,00			24,00	56,00		24,00			48,00	



Curve Force/Deflection

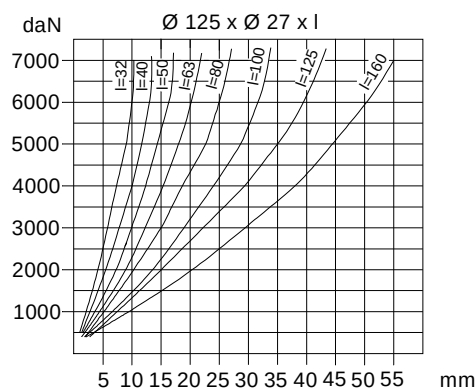
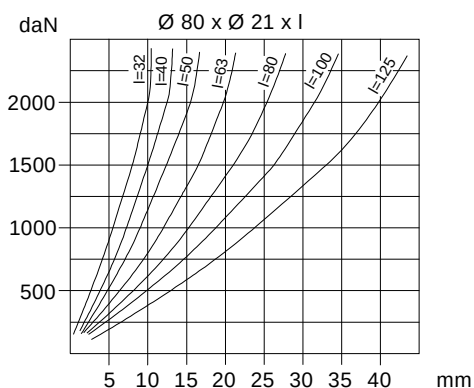
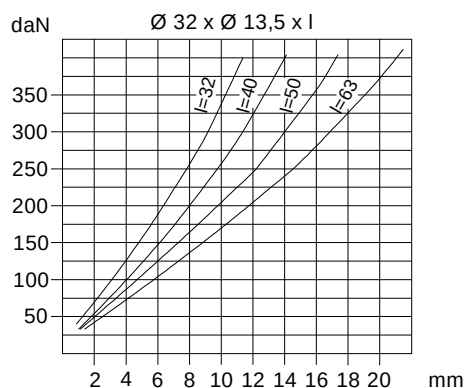
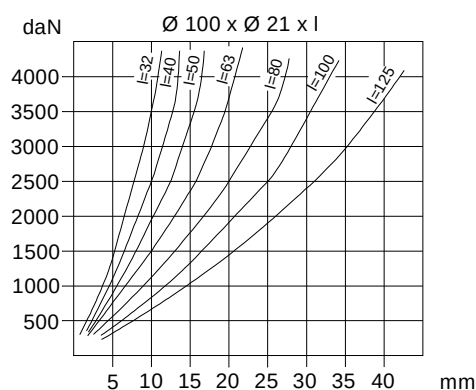
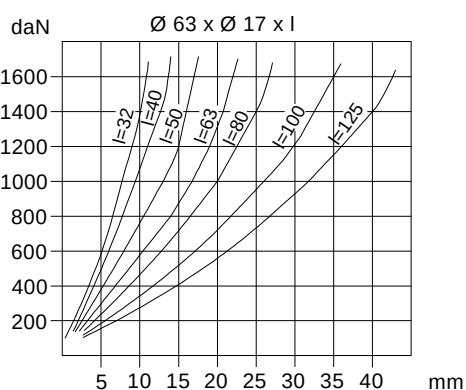
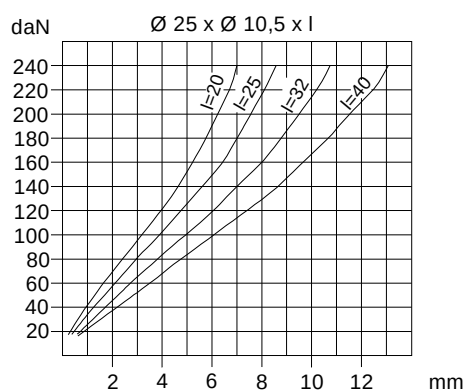
l = Length of spring





Curve Force/Deflection

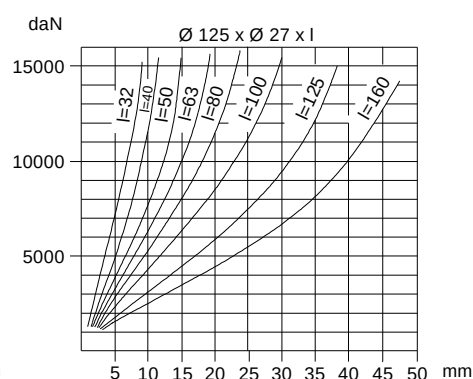
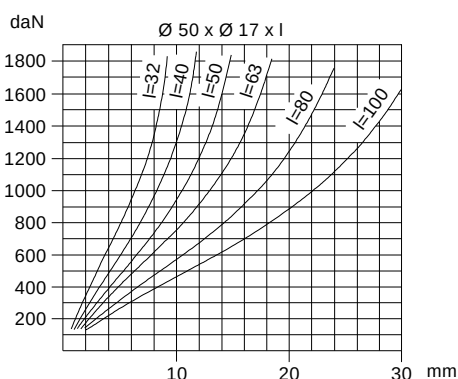
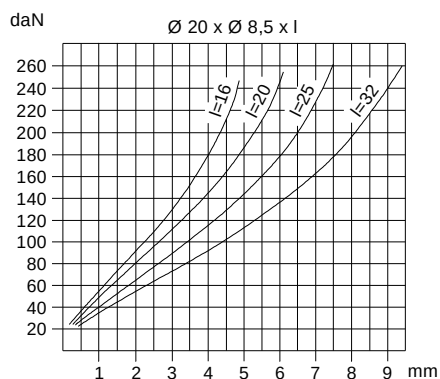
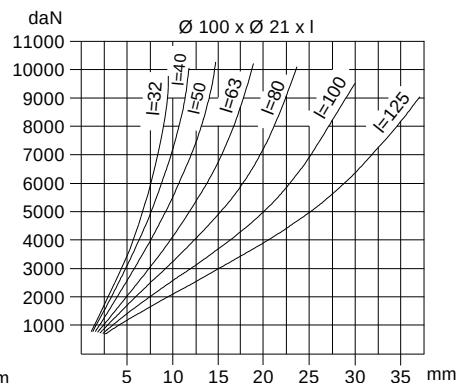
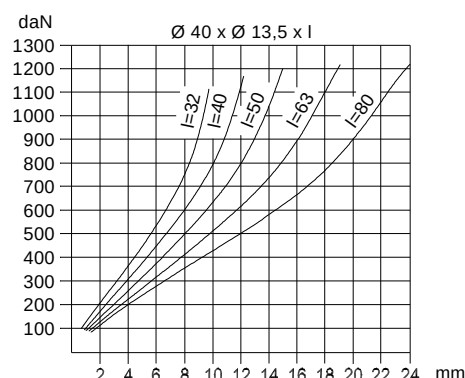
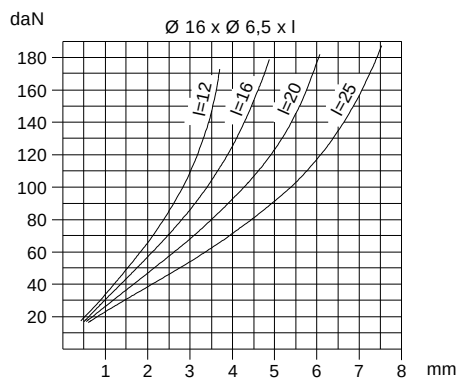
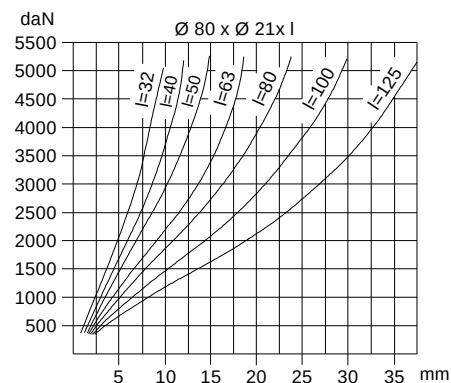
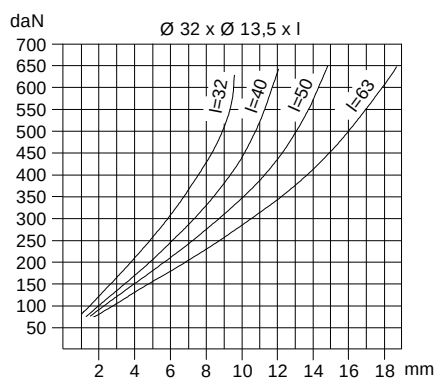
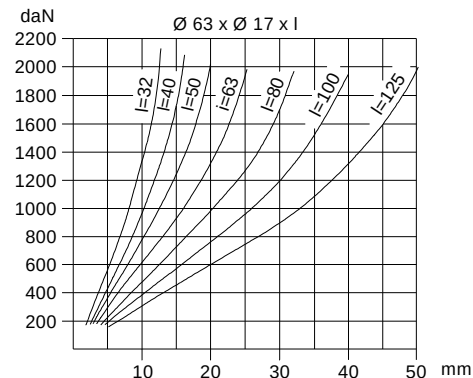
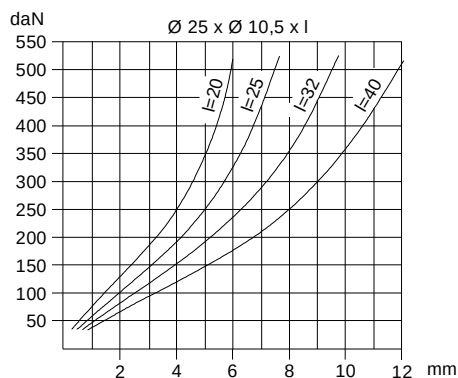
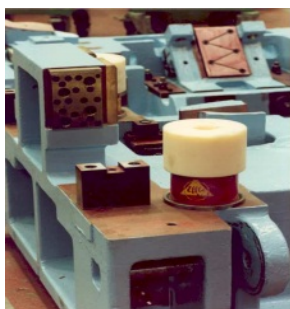
l =Length of spring



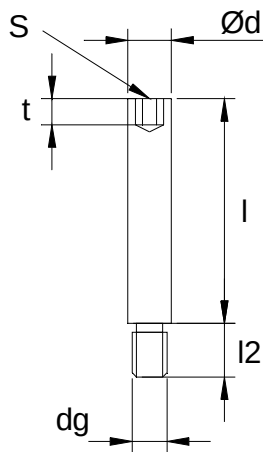


Quality for high speed fonction > 30 cps/mm
 and using with deflection over 20% of their height (I)

Improve long life



R SERIE



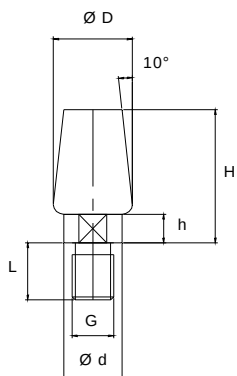
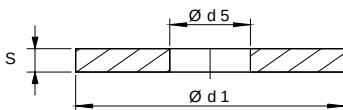
Guide bolt

Ø nominal D ₈ h ₁₁	6	8	10	13	16	20	25
d ₉	M 4	M6	M 8	M 10	M 12	M 16	M 20
l ₂	6	9	15	15	18	25	30
S	3	4	5	6	8	10	14
t	2,5	3	4	5	6	8	10
Lenght	Reference AX						
20	6x20	8x20	10x20				
25	6x25	8x25	10x25				
32	6x32	8x32	10x32	13x32	16x32	20x32	25x32
40		8x40	10x40	13x40	16x40	20x40	25x40
50		8x50	10x50	13x50	16x50	20x50	25x50
63			10x63	13x63	16x63	20x63	25x63
80				13x80	16x80	20x80	25x80
95				13x95	16x95	20x95	25x95
118					16x118	20x118	25x118
140						20x140	25x140
180							25x180



CuZn 20 ISO 10069-2 Improve deformation without risk of wear

Reference	A 20	A 25	A 30	A 40	A 50	A 60	A 80	A 100*	A 120*	A 150*
For springs	Ø 16	Ø 20	Ø 25	Ø 32	Ø 40	Ø 50	Ø 63	Ø 80	Ø 100	Ø 125
d ₁	20	25	30	40	50	60	80	100	120	150
d ₅	6,5	8,5	10,5	13,5	13,5	16,5	16,5	20,5	20,5	26
S	4	4	5	5	5	6	6	8	8	8



Fileté
136.9
136.10
136.11

Percé
136.12
136.13

For spring
outside
diameter

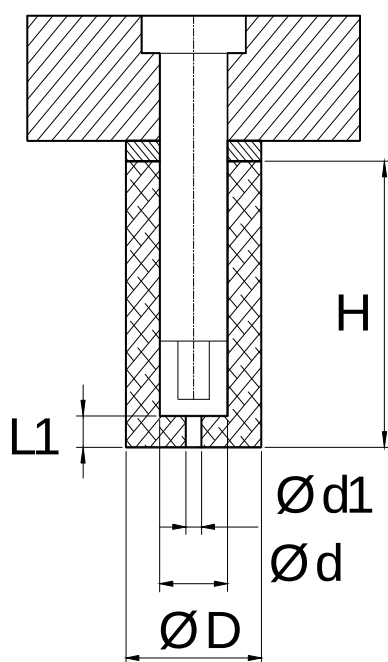
For spring outside diameter	Réf.		A	B	C	D	D1	E	F	G	H
80 & 100	136.9	Steel	30	71	22	30		M16	20	6	25
125 & 140	136.10	Steel	38	94	28	39		M20	24	6	31.5
50 & 63	136.11	Steel				28	11				50
80 & 100	136.12	Steel				32	13,5				50
125 & 140	136.13	Steel				38	17,5				50



No change of the punched rooms(parts,plays).
 Big capacity of dévêissage.
 Long-term efficiency.
 Maximum resistance in the wear and abrasion.

Montage

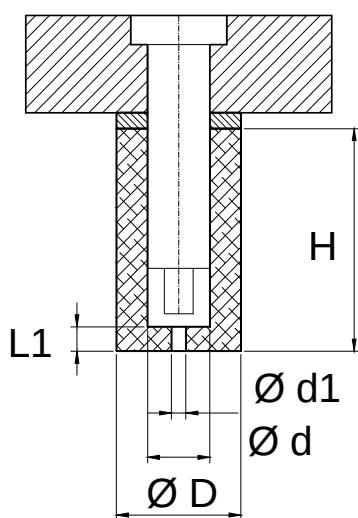
The length of the stripper should be 1 to 2 mm longer than the free punch length.
 When installing, ensure that there is sufficient space to accommodate bulging



Model R

With steel washer

Reference	Ø d	d ₁	D	L ₁	H	Force (N) Stroke		
						3 mm	6 mm	9 mm
80-04-45	4	1,6	17	5	45	600	1500	-
80-06-55	6	1,6	19	5	55	650	1200	1800
80-08-48.5	8	3	21	5	48.5	800	1490	2600
80-08-55	8	3	21	5	55	700	1300	2100
80-10-48.5	10	3	23	5	48.5	1030		
80-10-55	10	3	23	5	55	900	1600	2400
80-13-48.5	13	3	26	5	48.5	1260		
80-13-55	13	3	26	5	55	1100	1900	3000
80-16-48.5	16	3	30	5	48.5	1600		
80-16-55	16	3	30	5	55	1400	2300	3700
80-20-48.5	20	3	38	5	48.5	2400		
80-20-55	20	3	38	5	55	2100	3600	5500
80-25-48.5	25	3	50	5	48.5	4200		
80-25-55	25	3	50	5	55	3700	6500	10200
80-25-45.5 R	23.8	3	50	5	45.5	4550		
80-32-45.5 R	31.8	3	55	5	45.5	5350		
80-40-45.5 R	38.8	3	63	5	45.5	6400		



						Force (daN)		
						3 mm	6,5 mm	9,5 mm
ST 090-05-35	5	1,6	18	6,3	35	125	200	-
ST 090-05-45	5	1,6	18	6,3	45	115	175	
ST 090-05-55	5	1,6	18	6,3	55	105	150	
ST 090-06-35	6	1,6	19	6,3	35	140	240	
ST 090-06-45	6	1,6	19	6,3	45	135	230	
ST 090-06-55	6	1,6	19	6,3	55	110	190	240
ST 090-06-65	6	1,6	19	6,3	65	90	130	200
ST 090-08-35	8	1,6	21	6,3	35	160	250	
ST 090-08-45	8	1,6	21	6,3	45	150	225	
ST 090-08-55	8	1,6	21	6,3	55	135	200	300
ST 090-08-65	8	1,6	21	6,3	65	120	185	290
ST 090-08-75	8	1,6	21	6,3	75	100	165	270
ST 090-10-35	10	2,5	23	6,3	35	210	350	
ST 090-10-38	10	2,5	23	6,3	38	190	310	
ST 090-10-45	10	2,5	23	6,3	45	175	285	
ST 090-10-47	10	2,5	23	6,3	47	160	270	
ST 090-10-55	10	2,5	23	6,3	55	145	250	325
ST 090-10-65	10	2,5	23	6,3	65	130	220	290
ST 090-10-75	10	2,5	23	6,3	75	115	190	265
ST 090-13-35	13	3	26	6,3	35	260	390	
ST 090-13-38	13	3	26	6,3	38	225	360	
ST 090-13-45	13	3	26	6,3	45	215	340	
ST 090-13-47	13	3	26	6,3	47	165	270	
ST 090-13-55	13	3	26	6,3	55	150	240	300
ST 090-13-65	13	3	26	6,3	65	130	200	250
ST 090-13-75	13	3	26	6,3	75	105	160	200
ST 090-16-35	16	3	30	6,3	35	300	460	
ST 090-16-38	16	3	30	6,3	38	260	420	
ST 090-16-45	16	3	30	6,3	45	240	390	
ST 090-16-47	16	3	30	6,3	47	235	385	
ST 090-16-55	16	3	30	6,3	55	220	360	460
ST 090-16-65	16	3	30	6,3	65	200	330	420
ST 090-16-75	16	3	30	6,3	75	170	290	360
ST 090-20-38	20	3	38	6,3	38	280	420	
ST 090-20-47	20	3	38	6,3	47	240	390	
ST 090-20-55	20	3	38	6,3	55	200	350	550
ST 090-20-65	20	3	38	6,3	65	165	300	450
ST 090-20-75	20	3	38	6,3	75	150	270	400
ST 090-25-35	25	3	50	6,3	35	1200	1800	
ST 090-25-38	25	3	50	6,3	38	1100	1600	
ST 090-25-45	25	3	50	6,3	45	1000	1500	
ST 090-25-47	25	3	50	6,3	47	900	1400	
ST 090-25-55	25	3	50	6,3	55	700	1150	1650
ST 090-25-65	25	3	50	6,3	65	600	1000	1450
ST 090-25-75	25	3	50	6,3	75	500	850	1300



Punched part surface is not damaged

High operating force at small installation dimensions

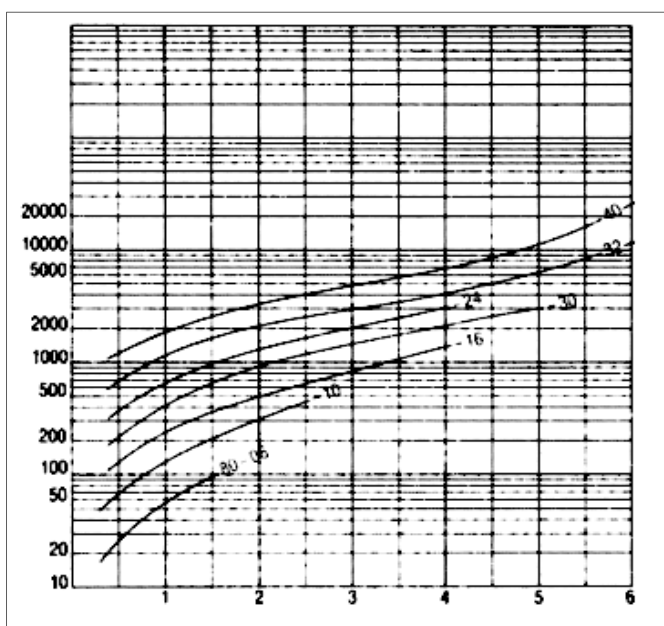
Reduced noise level

Long service life due to high resistance to abrasion

Installation

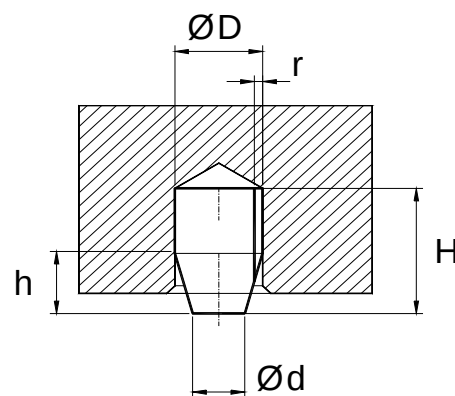
A blind hole is enough to receive the stripper the outline of which is endowed with a venting groove

Force N

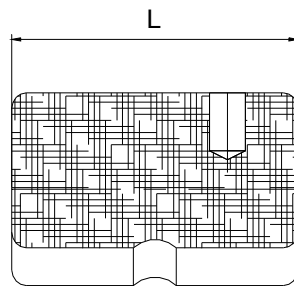
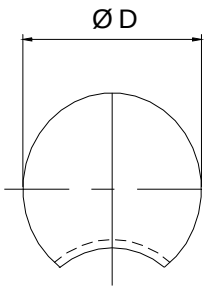
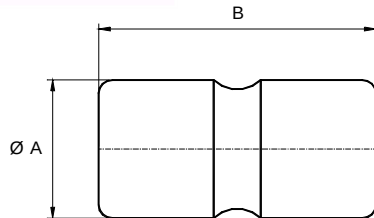


Stroke mm

reference	D	H	h	d	r	DL	t	F (N) Max
80 – 06	6	9,5	4,5	3,6	-	6	8	100
80 – 10	10	15,5	7,5	6	1	10	13	450
80 – 16	16	25	12	9,5	1,5	16	21	1500
80 – 24	24	25	10	18	2	24	21	3000
80 – 30	30	35	19	20	2,5	30	30	3000
80 – 32	32	32	14	24	3	32	26	12000
80 – 40	39,5	40	16	30	3	39,5	34	25000

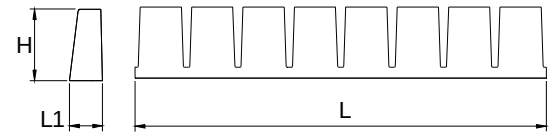
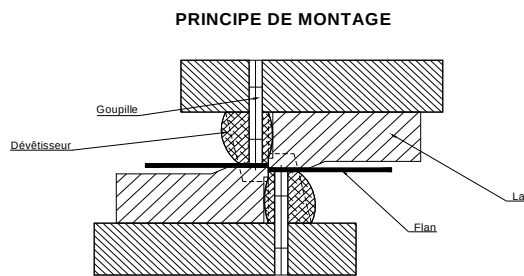


R SERIE



reference	A	B	Deflection max.	Energy
	mm		%	mm
ST 089.1b	25	45	12	3
ST 089.1	25	50	12	3
ST 089.2b	32	50	18	6
ST 089.2	32	60	18	6
ST 089.3	40	60	15	6
ST 089.4b	50	70	16	8
ST 089.4	50	80	16	8
ST 089.5	63	80	12	8
ST 089.6	80	90		10

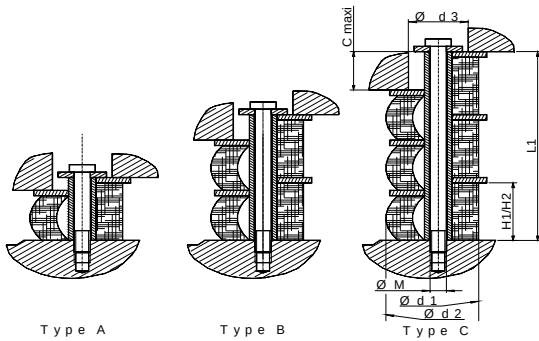
Reference	D	L	For spindle	r
ST 81.1	40	60	32	18
ST 81.2	50	80	40	23
ST 81.3	63	80	50	35
			66	
			63	



Découpage avec dévêtitseur de la pièce et du déchet

reference	Number of segment	Lenght L	Height H	Width L1
ST 080	9	270	16.6	19
ST 081	9	270	11.5	15
ST 082	9	306	27	19
ST 084	9	306	27	19
ST 092	9	400	65	32

R SERIE



Force 400 to 3400 daN

Preload when assembly

High precision of stroke and force

Replace gaz spring

Speed up to 40 cycles/min

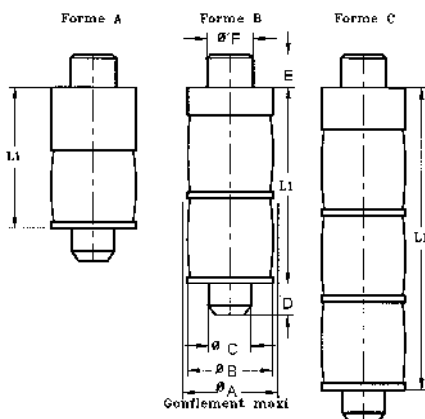
Note use over the maximum stroke

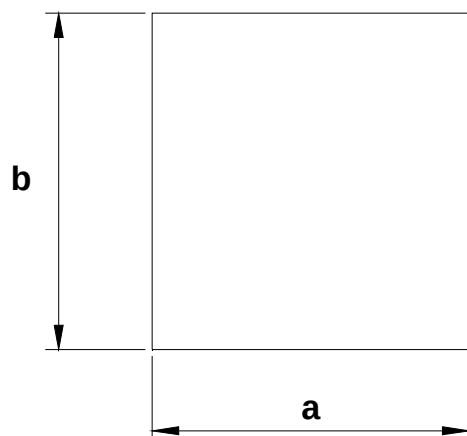
Maintenance free

reference	Typ			Size mm						Stroke Max.	Force daN	
	A	B	C	d1	d2	H1	H2	M	LI	mm		end
CEF 5080 PRE	X			50	65	80	74	M10	80	18	400	1700
CEF 5098 PRE	X			50	65	100	92	M10	98	22	400	1600
CEF 6364 PRE	X			63	82	63	58	M10	64	14	750	3000
CEF 63128 PRE		X		63	82	63	58	M10	128	28	750	3000
CEF 63192 PRE			X	63	82	63	58	M10	192	42	750	3000
CEF 80123 PRE	X			80	104	125	115	M12	123	27	1300	5000
CEF 80164 PRE		X		80	104	80	74	M12	164	36	1200	5000
CEF 125123 PRE	X			125	163	125	115	M16	123	27	3100	15000
CEF 125155 PRE	X			125	163	160	147	M16	123	35	3400	14000



Référence	FORM Type			DIMENSIONS mm							STROKE MAXI		FORCE daN	
	A	B	C	A	B	C	D	E	F	LI	mm		INITIAL	FINALE
CEF 4069 2 T	X			52	45	20,5	20	20	22	69	10		240	860
CEF 4076 2 T	X			52	45	20,5	20	20	22	76	15		140	890
CEF 40100 2 T		X		52	45	20,5	20	20	22	100	20		180	840
CEF 40122 2 T		X		52	45	20,5	20	20	22	122	25		165	930
CEF 40143 2 T		X		52	45	20,5	20	20	22	143	30		140	890
CEF 40188 2 T			X	52	45	20,5	20	20	22	188	40		155	900
CEF 5088 2 T	X			62	55	25,5	20	20	27	88	10		410	1.230
CEF 50100 2 T	X			62	55	25,5	20	20	27	100	20		180	1.490
CEF 50122 2 T		X		62	55	25,5	20	20	27	122	25		240	1.330
CEF 50143 2 T		X		62	55	25,5	20	20	27	143	30		190	1.370
CEF 50188 2 T		X		62	55	25,5	20	20	27	188	40		180	1.490
CEF 50232 2 T			X	62	55	25,5	20	20	27	232	50		195	1.370
CEF 63105 2 T	X			76	63	36,5	20	20	38	105	8		610	1.630
CEF 63122 2 T	X			76	63	36,5	20	20	38	122	25		330	1.870
CEF 63143 2 T	X			76	63	36,5	20	20	38	143	30		275	1.800
CEF 63188 2 T	X			76	63	36,5	20	20	38	188	40		285	2.000
CEF 63232 2 T		X		76	63	36,5	20	20	38	232	50		285	1.900
CEF 63277 2 T		X		76	63	36,5	20	20	38	277	60		270	1.840





Strathane	315 M = 99 Sh A	900 R = 90 Sh A
	200 M = 98 Sh A	850 R = 85 Sh A
	167 M = 95 Sh A	800 R = 80 Sh A
	100 M = 90 Sh A	750 R = 75 Sh A
	420 M = 80 Sh A	700 R = 70 Sh A
		650 R = 65 Sh A
		600 R = 60 Sh A
		550 R = 55 Sh A
		500 R = 50 Sh A

2000x1000 available only in 70/80/90 Sh A

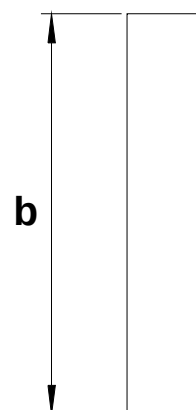
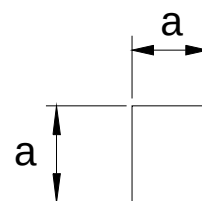
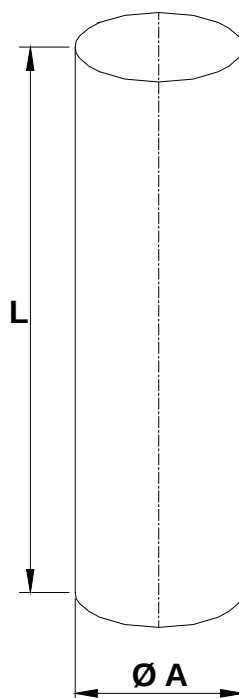
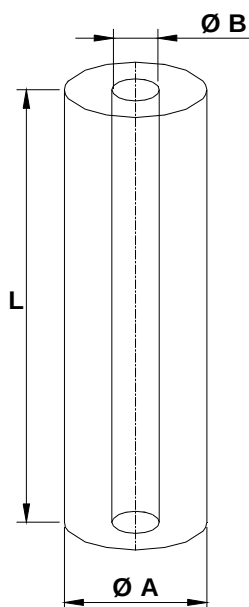
Sizes	2000x1000
	1000x500
	500x500
	250x250
Thickness	For 2000x1000 color brown
	2/4/5/6/6/10/12/15/20/25/30
	1000x1000 / 500x500 / 250x250
	2/3/4/5/6/7/8/10/12/15/20/25/30/35
	40/45/50/55/65/70/75/80/85/90/100

	a	b	h
Sheet	1000	1000	2-3- 100 mm
	1000	500	Tolérance +/- 0.5 mm
	500	500	
	250	250	
	a	b	h
Sheet	2000	1000	1 to 30 mm
			Tolerance Norm DIN 3302-1 M3



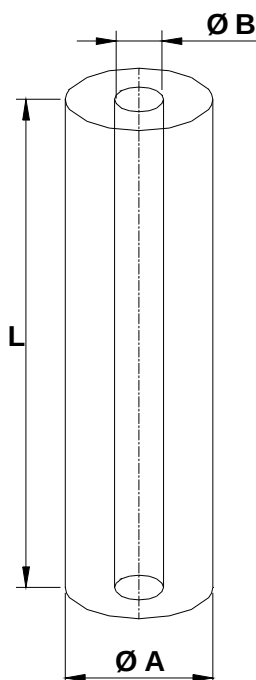
Strathane 315 M = 99 Sh A
 200 M = 98 Sh A
 167 M = 95 Sh A
 100 M = 90 Sh A
 420 M = 80 Sh A

900 R = 90 Sh A
 850 R = 85 Sh A
 800 R = 80 Sh A
 750 R = 75 Sh A
 700 R = 70 Sh A
 650 R = 65 Sh A
 600 R = 60 Sh A
 550 R = 55 Sh A
 500 R = 50 Sh A



All sizes available consult our prices list

L = 250 and 500 mm

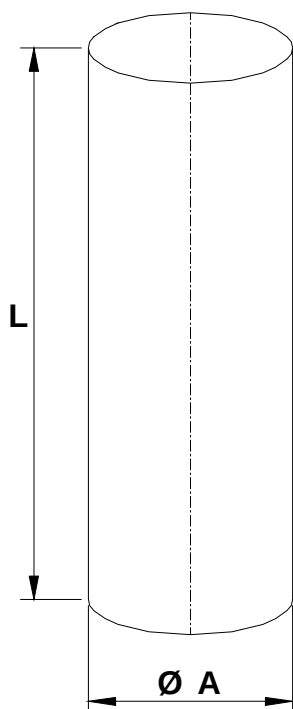


Other sizes on request

Outside diameter A	Tol	Inside hole B
10	+/- 0.2	6
12	+/- 0.2	6-6.5-7-8
13	+/- 0.2	6-6.5-7-8
14	+/- 0.2	
15	+/- 0.2	6-6.5-7-8-10
16	+/- 0.2	6-6.5-7-8-10
17	+/- 0.2	9
20	+/- 0.2	6-6.5-7-8-10-10.5-11-11.5-12-13-13.5-14
24	+/- 0.2	10.5-12
25	+/- 0.2	6-6.5-7-8-8.5-10-10.5-11-11.5-12-13-13.5-14-15-16-17-18
27	+/- 0.2	12
28	+/- 0.2	6-6.5-7-8-8.5-10-10.5-11-11.5-12-13-13.5-14-15-16-17-18
30	+/- 0.2	6-6.5-7-8-8.5-10-10.5-11-11.5-12-13-13.5-14-15-16-17-18-19-20
32	+/- 0.2	6-6.5-7-8-8.5-10-10.5-11-11.5-12-13-13.5-14-15-16-17-18-20-21
35	+/- 0.2	6-6.5-7-8-8.5-10-10.5-11-11.5-12-13-13.5-14-15-16-17-18-20-21-24-25
40	+/- 0.2	6-6.5-7-8-8.5-10-10.5-11-11.5-12-13-13.5-14-15-16-17-18-20-21-24-25-26-27-28-29-30
42	+/- 0.5%	17
45	+/- 0.5%	10-10.5-11-11.5-12-13-13.5-14-15-16-17-18-20-21-24-25-26-27-28-29-30-32-33-35-36-37
50	+/- 0.5%	10-10.5-11-11.5-12-13-13.5-14-15-16-17-18-20-21-24-25-26-27-28-29-30-32-33-35-36-37
55		
60	+/- 0.5%	10-10.5-11-11.5-12-13-13.5-14-15-16-17-18-20-21-24-25-26-27-28-29-30-32-33-35-36-37-40-42-43-45-50
63		
65		
70	+/- 0.5%	15-16-17-18-20-21-24-25-26-27-28-29-30-32-33-35-36-37-40-42-43-45-47-50-52-55
75	+/- 0.5%	16-17-18-20-21-24-25-26-27-28-29-30-32-33-35-36-37-40-42-43-45-47-50-52-55-59-60-65
80	+/- 0.5%	18-20-21-24-25-26-27-28-29-30-32-33-35-36-37-40-42-43-45-47-50-52-55-59-60-65-70
85		
90	+/- 0.5%	20-21-24-25-26-27-28-29-30-32-33-35-36-37-40-42-43-45-47-50-52-55-59-60-65-70-75
95		
100	+/- 0.5%	20-21-24-25-26-27-28-29-30-32-33-35-36-37-40-42-43-45-47-50-52-55-59-60-65-70-75-80-90
110		
120	+/- 0.5%	20-21-24-25-26-27-28-29-30-32-33-35-36-37-40-42-43-45-47-50-52-55-59-60-65-70-75-80-90
125		
130	+/- 0.5%	20-21-24-25-26-27-28-29-30-32-33-35-36-37-40-42-43-45-47-50-52-55-59-60-65-70-75-80-90-100-110
140		
140	+/- 0.5%	20-21-24-25-26-27-28-29-30-32-33-35-36-37-40-42-43-45-47-50-52-55-59-60-65-70-75-80-90-100-110-120
150		
160	+/- 0.5%	20-21-24-25-26-27-28-29-30-32-33-35-36-37-40-42-43-45-47-50-52-55-59-60-65-70-75-80-90-100-110-120-130-140
170		
180	+/- 0.5%	20-21-24-25-26-27-28-29-30-32-33-35-36-37-40-42-43-45-47-50-52-55-59-60-65-70-75-80-90-100-110-120-130-140-150-160
190		
200		
> 200	+/-1%	On request

Lenght L depend diameter
250 mm or 500 mm

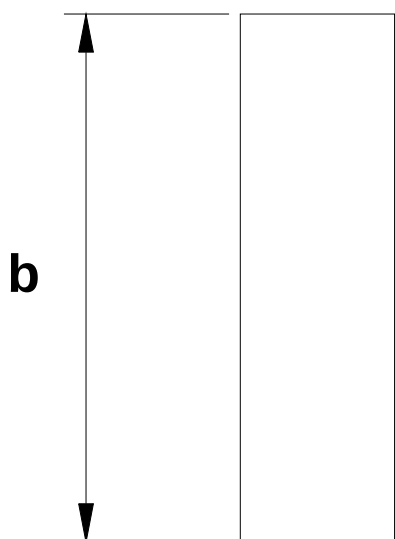
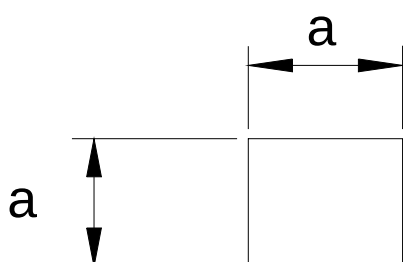
Lenght 1000 mm on request



Other sizes on request

Outside diameter A	Tolerance Lg 250 et 500 mm
2	+/- 0.2
3	+/- 0.2
4	+/- 0.2
5	+/- 0.2
6	+/- 0.2
10	+/- 0.2
12	+/- 0.2
13	+/- 0.2
14	+/- 0.2
15	+/- 0.2
16	+/- 0.2
17	+/- 0.2
20	+/- 0.2
24	+/- 0.2
25	+/- 0.2
27	+/- 0.2
28	+/- 0.2
30	+/- 0.2
32	+/- 0.2
35	+/- 0.2
40	+/- 0.2
42	+/- 0.5%
45	+/- 0.5%
50 55	+/- 0.5%
60 63 65	+/- 0.5%
70	+/- 0.5%
75	+/- 0.5%
80 85	+/- 0.5%
90 95	+/- 0.5%
100 110	+/- 0.5%
120 125	+/- 0.5%
130 140	+/- 0.5%
140 150	+/- 0.5%
160 170	+/- 0.5%
180 190 200	+/- 0.5%
> 200	+/-1%

Lenght 1000 mm +/- 5 mm



Other sizes on request

Section	a x a +/- 1%	Section	a x a +/- 1%
4 x 20		25 x 50	
5 x 10		25 x 60	
5 x 20		25 x 75	
5 x 30		25 x 80	
5 x 35		30 x 30	
5 x 40		30 x 40	
5 x 50		30 x 50	
5 x 60		30 x 60	
5 x 80		30 x 80	
8 x 8		35 x 35	
8 x 40		35 x 40	
10 x 10		35 x 50	
10 x 20		35 x 60	
10 x 30		35 x 80	
10 x 40		40 x 40	
10 x 50		40 x 50	
10 x 60		40 x 60	
10 x 80		40x 80	
15 x 15		50 x 25	
15 x 20		50 x 50	
15 x 25		50 x 60	
15 x 30		50 x 75	
15 x 40		50 x 80	
15 x 50		60 x 60	
15 x 60		60 x 75	
15 x 80		60 x 80	
20 x 10		70 x 20	
20 x 20		70 x 50	
20 x 30		70 x 60	
20 x 40		70 x 80	
20 x 50		75 x 75	
20 x 60		75 x 100	
20 x 80		100 x 50	
20 x 100		100 x 75	
25 x 25		100 x 100	
25 x 30		125 x 50	
25 x 30		125 x 100	
25 x 40		125 x 125	

WASHERS



Hardness	Shore A	50	60	70	80	90
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Diameter	hole	Tickness	Diameter	hole	Tickness
8	4,5	3	24	12,5	6
10	4,5	3	24	12,5	8
10	4,5	6	24	14,5	6
12	4,5	3	24	14,5	8
12	4,5	3	30	12,5	6
12	6,5	6	30	12,5	8
12	6,5	6	30	14,5	6
14	6,5	3	30	14,5	8
14	6,5	6	30	16,5	6
14	8,5	3	30	16,5	8
14	8,5	6	35	12,5	8
16	8,5	3	35	12,5	10
16	8,5	6	35	14,5	8
16	10,5	3	35	14,5	10
16	10,5	6	35	16,5	8
20	10,5	3	35	16,5	10
20	10,5	6	40	14,5	6
20	12,5	3	40	14,5	10
20	12,5	6	40	16,5	6
20	14,5	3	40	16,5	10
20	14,5	6	40	16,5	15



Hardness	Shore A	70	80	90	95	99
Color						



Serie G1 & G2

Strathane bonding on ball bearings

Hardness Shore 95 Sh A

Other hardness on request

G1 1 Ball bearing

G1 2 Ball bearing

Abrasion and cutting resistance

Rolling resistance

Non marking

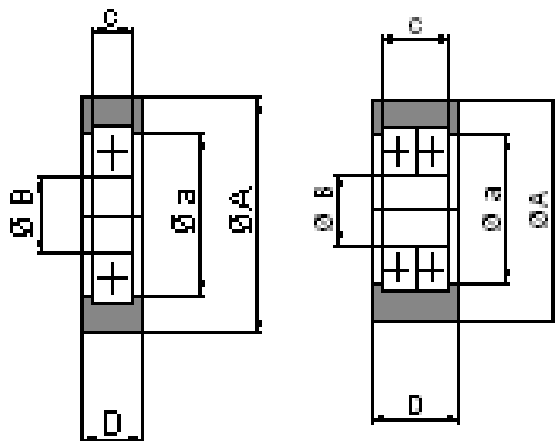
Noise reduction

High chemical resistance

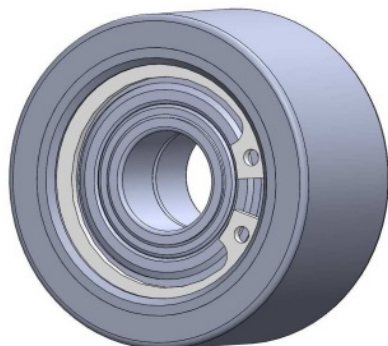
Floor preservation

Maintenance free

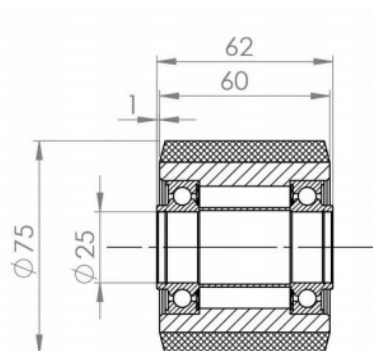
OTHERS SIZES ON REQUEST



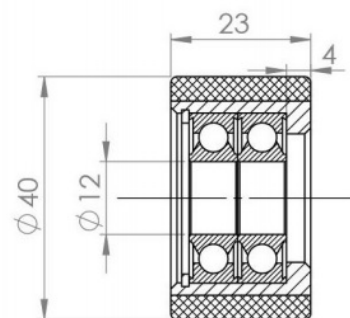
	A	B	C	D	Load max kg
1 Ball bearing					
G1.401008 ST95	40	10	8	10	20
G1.401208 ST95	40	12	8	10	25
G1.451509 ST95	45	15	9	11	30
G1.501710 ST95	50	17	10	12	30
G1.552012 ST95	55	20	12	14	40
G1.45.10.09 ST95	45	10	9	11	25
G1.45.12.10 ST95	45	12	10	12	30
G1.50.15.11 ST95	50	15	11	13	35
G1.55.17.12 ST95	55	17	12	14	35
G1.65.20.14 ST95	65	20	14	16	50
G1.50.10.11 ST95	50	10	11	13	30
G1.50.12.12 ST95	50	12	12	14	35
G1.55.15.13 ST95	55	15	13	15	40
G1.65.17.14 ST95	65	17	14	16	40
G1.70.20.15 ST95	70	20	15	17	60
	A	B	C	D	Load max kg
2 ball bearing					
G2.401008 ST95	40	10	16	20	40
G2.401208 ST95	40	12	16	20	50
G2.451509 ST95	45	15	18	22	60
G2.501710 ST95	50	17	20	24	60
G2.552012 ST95	55	20	24	28	80
G2.45.10.09 ST95	45	10	18	22	50
G2.45.12.10 ST95	45	12	20	24	60
G2.50.15.11 ST95	50	15	22	26	70
G2.55.17.12 ST95	55	17	24	28	70
G2.65.20.14 ST95	65	20	28	32	100
G2.50.10.11 ST95	50	10	22	26	60
G2.50.12.12 ST95	50	12	24	28	70
G2.55.15.13 ST95	55	15	26	30	80
G2.65.17.14 ST95	65	17	28	32	80
G2.70.20.15 ST95	70	20	30	34	120



Hardness	Shore A	80	90	95
Color				



GRI 7562 100M



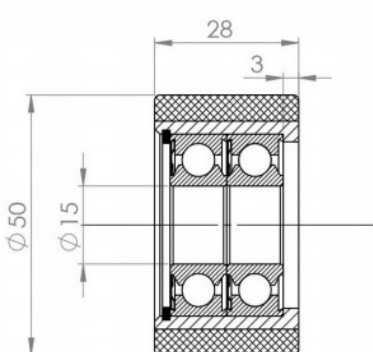
GRI 4023 100M

Galet revêtu

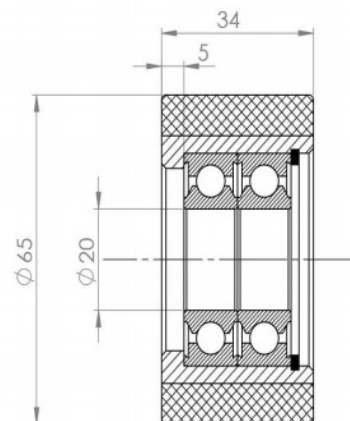
Moyeu acier avec roulement

Revêtement
Strathane 100M 90 Sh ASur demande
420M 80 Sh A 167M 95 Sh A

Custom design available

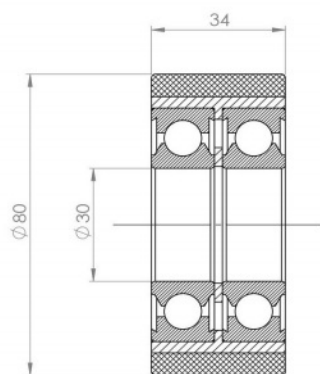
Special version high speed
and heavy load

GRI 5028 100M

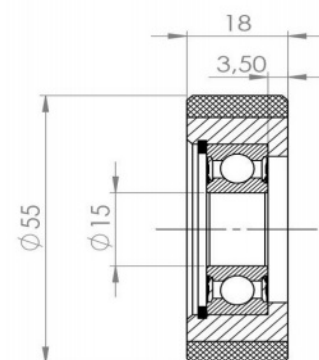


GRI 6534 100M

Soft roller



GRI 8034 100M



GRI 5518 100M



Pressure rollers

Casters

Conveyor rollers

Guide rollers

Drive rollers

Low pressure wheels

Anti cutting rollers

Trolley wheels

Custom made products

CAD software for load capacity simulation

Compared to others elastomer Strathane offer:

- Load-bearing capacity
- High wear resistance
- Resistant to oils and greases
- Low abrasion

Efficient process

Metal parts preparation

- sand-blasting
- degreasing
- adhesive primer coating

Casting

- Bonding on Steel Aluminium Plastic
- without bubbles

Machining

- Milling
- Machining by grinding



Rouleaux d'entraînement de bande



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