



ROLL CONCEPT



MADE IN FRANCE!

**Industrial rollers
and winding cores**

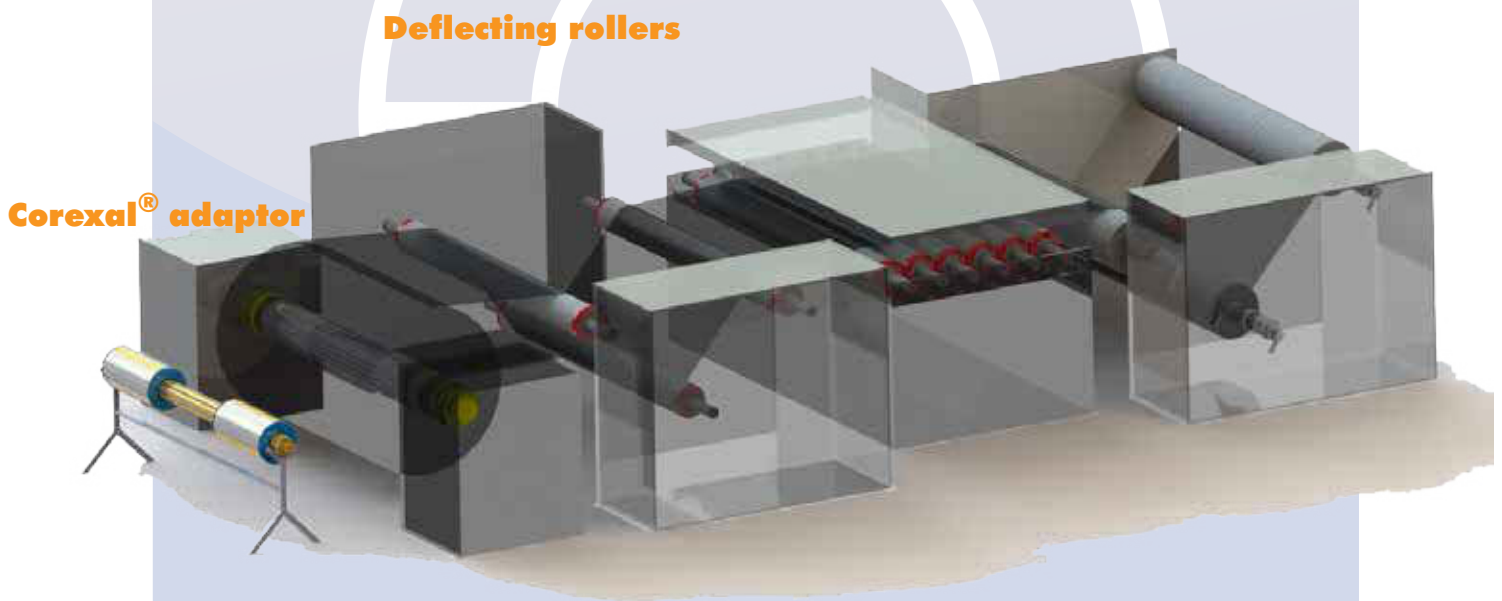
Best compromise on the market!

www.rollconcept.com

CATALOG

Best compromise between bending resistance and low inertia!

From simple profile to turnkey roller!



ROLL CONCEPT

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SPOOLEX, with its ROLL CONCEPT® brand, is specialised in manufacturing technical rollers and winding cores for all industrial productions of web formed products.

For more than 20 years, we have been located in the Saint-Étienne area, famous and well-known for its high quality and competence in mechanics. We have developed a range of products and services which aim to supply turnkey rollers and winding cores.

ROLL CONCEPT® technical rollers and winding cores are manufactured with aluminium profiles known as ALVEOTUBE®. These patented profiles are available in several diameters.

Our rollers can be used for many productions, such as:

- Textile,
- Technical Textile,
- Non-woven,
- Plastics,
- Rubber and Tires,
- Paper and Cardboard...

We can supply either the profile itself (cut to length, deburred and straightened) or technical rollers specially designed in accordance with your needs and application.

All our profiles are available in stock that we can answer your request within the best delivery time.

Our organisation guarantees that orders are delivered in time by 98%!

Spoollex is certified ISO 9001 - ISO 14001 and OHSAS 18001

Web guiding rollers

*3RC 80 ALVEOTUBE® roller, hard anodised,
for carbon thread (cantilevered assembly).
This application needs a low inertia*



Large width conveyor rollers:
Low inertia combined with good bending resistance



Web guiding rollers:
*For web process
Low inertia*



Specific rollers



Thermal roller:
3RC profile used for cool water passing through the alveolus



ALVEOTUBE® with helically grooves and hard anodised, used on a printing machine



Nip roller:
Low resistance torque to avoid any problem when winding sensitive products

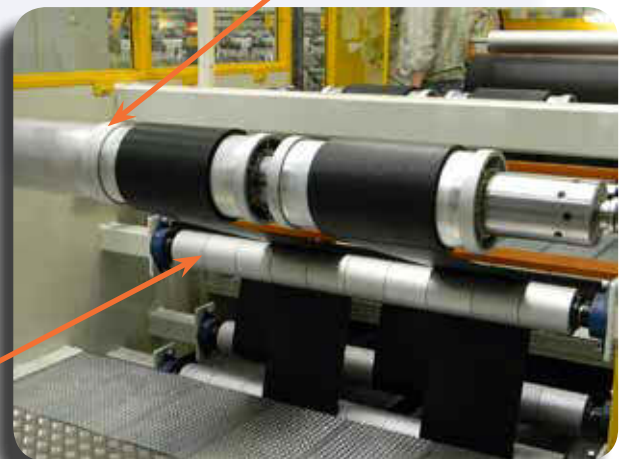


Lined ALVEOTUBE® 3RC. Well adapted for use as nip roller or anvil roller for perforators

Corexal® adaptor:
To transform in a few seconds a 3" expanding shaft into a 6"



3RC 230 used as winding cores (perfectly adapted to 6" expanding shafts)



Several 3RC profiles mounted on one axle. Reduces tension problems on multiple strips

In many industrial fields and depending on application, choice of the rollers has to take into account several points:

Low inertia

Driven roller:

The lower this value is, the lower the electrical power needed will be.

Idler roller:

The lower this value is, the lower the effects on the product and the tension on the web will be.

Stiffness

Even with the load, the roller must have less bending as possible. Too much bending may cause departing or wrinkles of the product.



Price

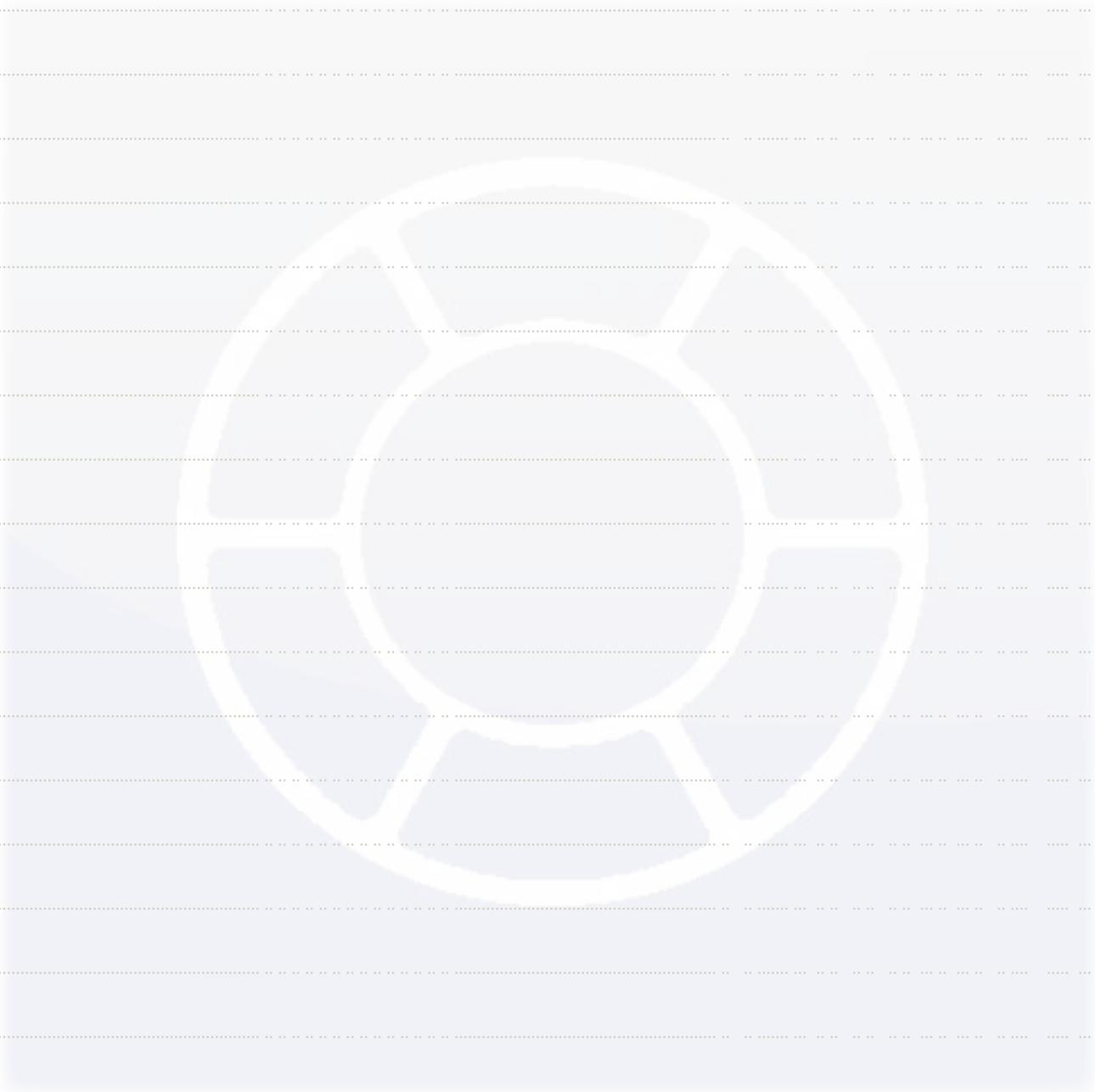
It much depends on:

- The material of the roller body,
- Parts of the assembly (journals, rigid plates, etc.)

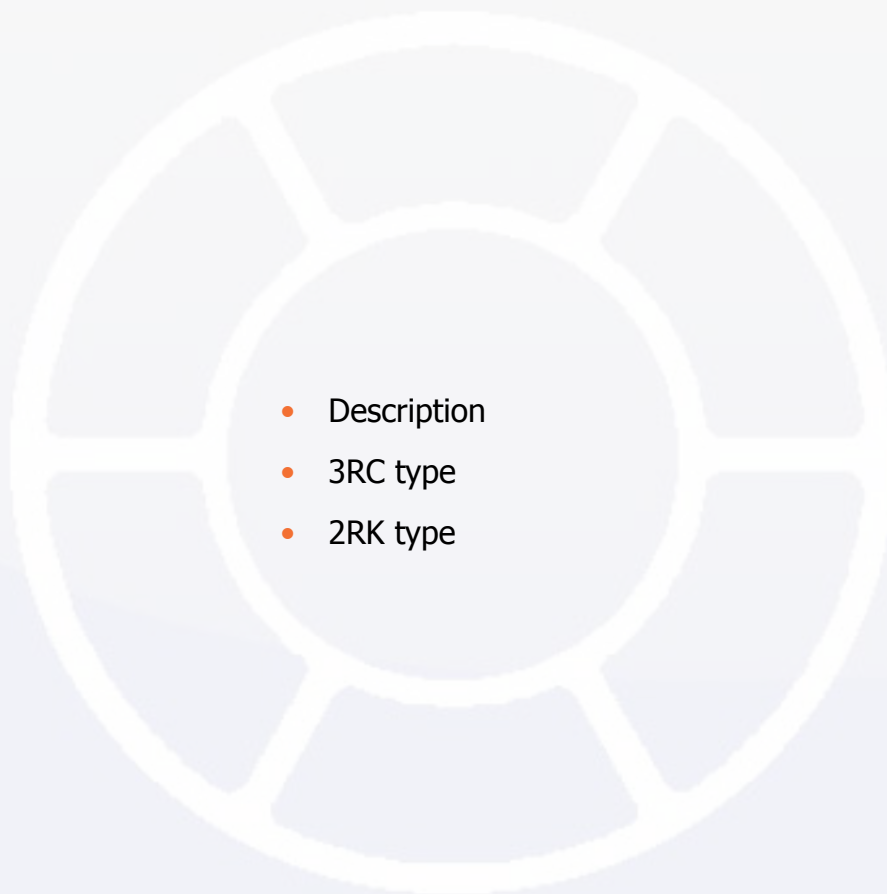
When complying with these 3 main criteria, aluminium is the best compromise. Extrusion (known for many years), together **with straightening made by our skilled operators**, allow us to obtain, at low costs, technical profiles able to comply with industrial aims.

By comparison:

- **Composite materials** are dedicated to extreme applications (very low inertia and high resistance to bending).
- On an other hand, **steel** will be used when high resistance is needed (anvil roller for crush cutting, etc...). But, inertia of such rollers is very important.



ALVEOTUBE® profiles



- Description
- 3RC type
- 2RK type

PROFILES

2. ALVEOTUBE® profiles



Due to their conception, our ALVEOTUBE® profiles are very interesting compared with aluminium tube you can find.

- Double tube allows :

- **To reduce production costs of the roller.**
- **Manufacturing of the assembly parts** (journals, rigid plates for ball bearings, etc.) **needs less material and thus reduce manufacturing time.**
- **To reduce inertia of the final assembled roller.**
- **Weights of the assembly parts are re-centred.**

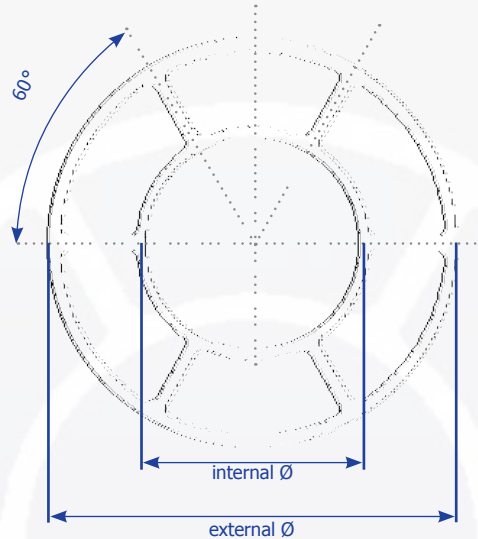


3RC type

ALVEOTUBE® 3RC profiles are made of one external tube and one internal tube, linked together by 6 radial blades, providing alveolus.

Our 3RC profile offers a good compromise between bending resistance (depending on the load) and inertia.

It is available in 9 dimensions.



Reference	3RC 48	3RC 60	3RC 80	3RC 100	3RC 120	3RC 130	3RC 145	3RC 200	3RC 230
Material	Alumium AGS 6060 T5								
External Ø (mm)	48,3 ^{±0,3}	60 ^{±0,3}	81 ^{+0,7/-0,3}	101 ^{+0,6/-0,3}	121 ^{+0,7/-0,3}	130 ^{+0,7/-0,3}	145 ^{±0,5}	201 ^{±1,2}	230 ^{±1,5}
Internal Ø (mm)	27 ^{±0,2}	31 ^{±0,2}	40 ^{+0,3/-0,5}	45 ^{±0,4}	60 ^{±0,4}	70 ^{±0,4}	70 ^{±0,4}	106 ^{±0,7}	152 ^{+0,2}
Weight per meter (kg)	1,2	1,8	3,2	5,3	6,915	10,6	9,3	16,5	18,9
External Ø thickness (mm)	1,5	1,8	2,5	3,5	4	6,5	4	5	5 ^{±0,3}
Internal Ø thickness (mm)	1,5	1,8	3	3	3	4	4	4,5	5 ^{+0,3/-0,5}
Standard surface finishing	Anodisation 15µm					Without anodisation	Anodisation 15µm		Without anodisation
Rough straightness mm/m	0,5							1	
Concentricity (mm)	0,35	0,35	0,35	0,35	0,35	0,35	0,35	0,6	0,8
Second moment of area (mm ⁴)	101 586	201 571	665 597	1 703 730	3 312 194	6 162 454	6 169 528	20 664 981	34 598 085
Inertia for 1 meter (g.mm ²)	558 715	1,088.10 ⁶	3,594.10 ⁶	9,200.10 ⁶	17,8.10 ⁶	33,277.10 ⁶	33,315.10 ⁶	111,590.10 ⁶	186,829.10 ⁶
Surface roughness (µm)	Ra 0,8							Ra 0,8	
Available in bars of (mm)	7 000							6 000	7 000

We have worked on all our drawing in order to reduce the concentricity tolerance after extrusion, insuring better tolerance before machining

To improve its geometry after extrusion, we worked on this profile in 2014

2RK type

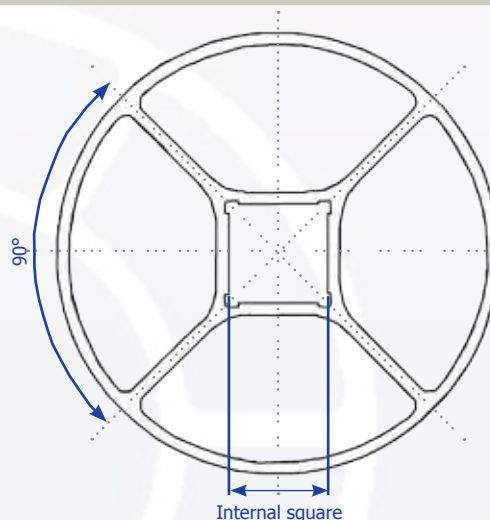
2RK ALVEOTUBE® profiles are made of 1 external tube and one squared internal profile, linked together by 4 blades.

Designed, at the beginning, to be used as winding or unwinding cores used on squared bars.



It can be used in applications with low load when you need to obtain the lowest inertia.

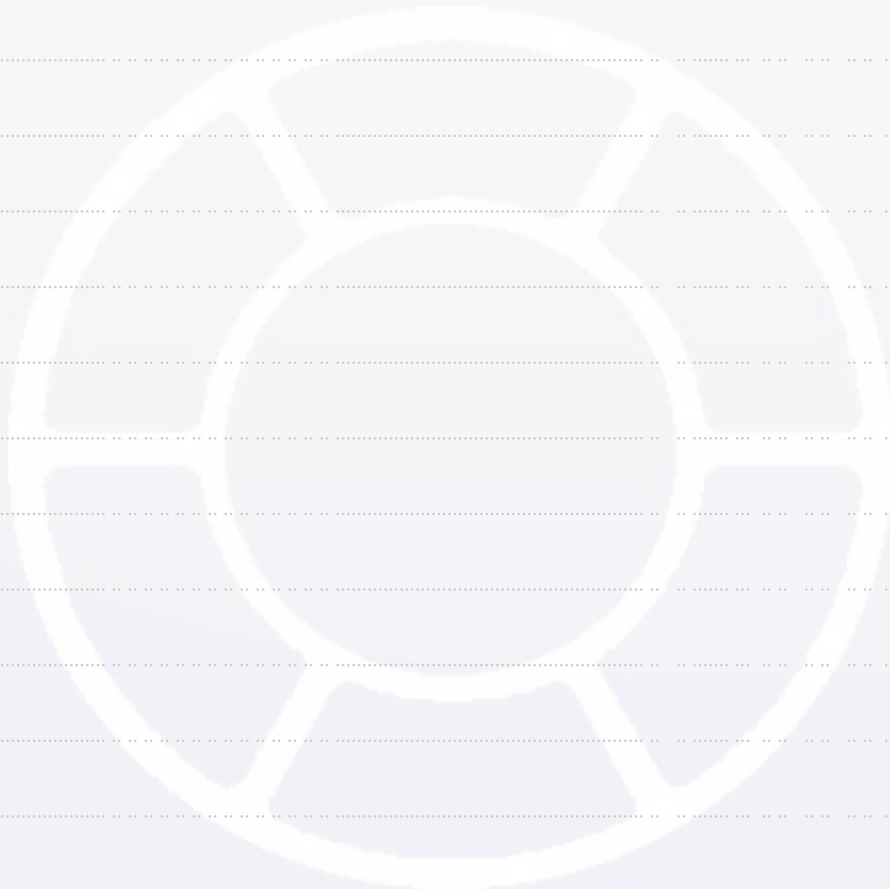
2RK is available in 3 dimensions:



Reference	2RK 120		2RK 145	2RK 200
Material	Aluminium AGS 6060 T5			
External Ø (mm)	120 \pm 0,5		145 \pm 0,5	200 \pm 1
Internal square (mm)	31,5 \pm 0,5	54 \pm 0,5	41,5 \pm 0,5	81 \pm 0,5
Weight per meter (kg)	6,107	6,35	8,42	15,176
External Ø thickness (mm)	3,5	3,5	4	5
Internal Ø thickness (mm)	3,5	3,5	4	5,5
Standard surface finish	Anodisation 15 μ m		Without anodisation	Anodisation 15 μ m
Rough straightness mm/m	0,5			1
Second moment of area (mm ⁴)	2,71.10 ⁶	2,94.10 ⁶	5,460.10 ⁶	
Inertia for 1 meter (g.mm ²)	14,636.10 ⁶	15,905.10 ⁶	29,505.10 ⁶	
Surface roughness (μ m)	Ra 0,8			
Available in bars of (mm)	7 000			4 070

ALVEOTUBE® VS Aluminium Tube

- Inertia comparison
 - Driven rollers
 - Inside bearing assembly
- Comparison of power needed when accelerating



3. ALVEOTUBE® VS aluminium tube



The ALVEOTUBE® roller allows producing rollers with a low inertia:

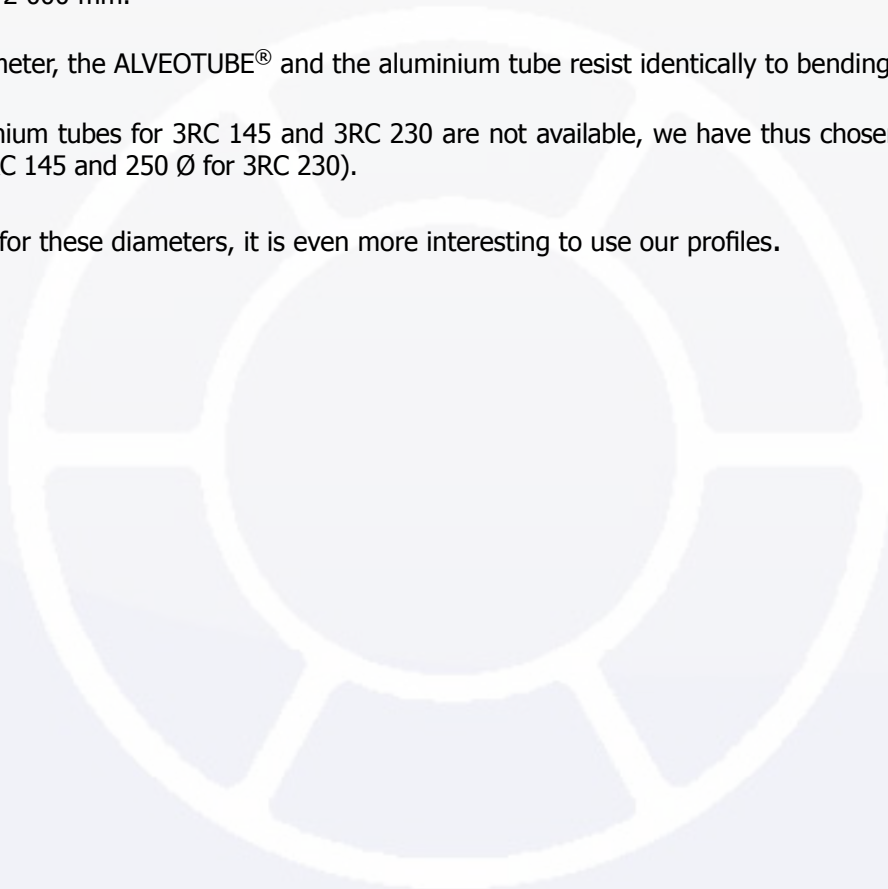


Reduce electrical power needed when accelerating.
Reduced load torque for idler rollers.

This comparison has been made with following hypothesis:

- Table length: 2 000 mm.
- For each diameter, the ALVEOTUBE® and the aluminium tube resist identically to bending.
- Similar aluminium tubes for 3RC 145 and 3RC 230 are not available, we have thus chosen superior diameters (150 Ø for 3RC 145 and 250 Ø for 3RC 230).

In that case, for these diameters, it is even more interesting to use our profiles.



INERTIA COMPARISON

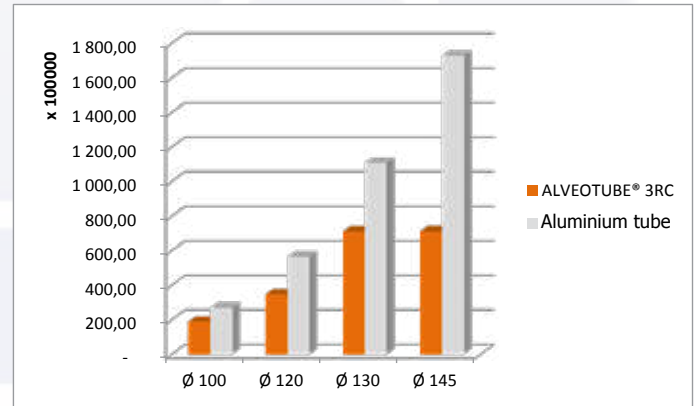
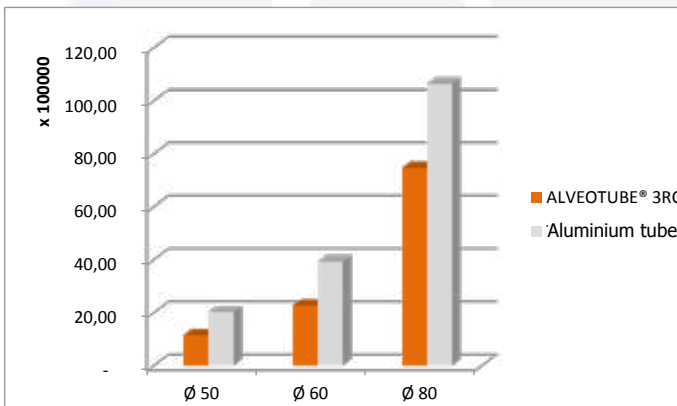
Driven rollers



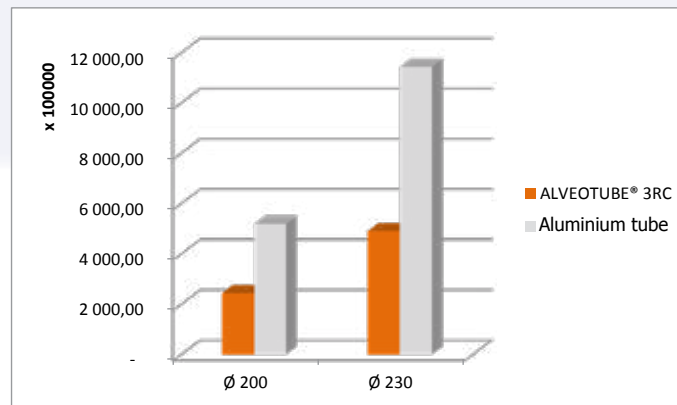
ALVEOTUBE® 3RC
Steel journal assembly



Aluminum tube
Steel journal assembly



Inertia (g.mm²) for journal assembly



INERTIA COMPARISON

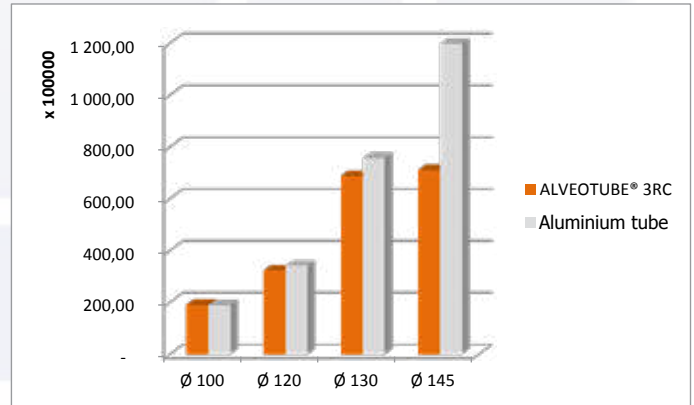
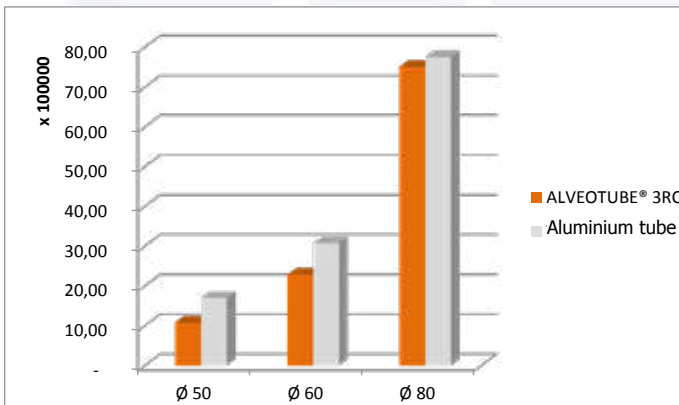
Ball bearing assembly



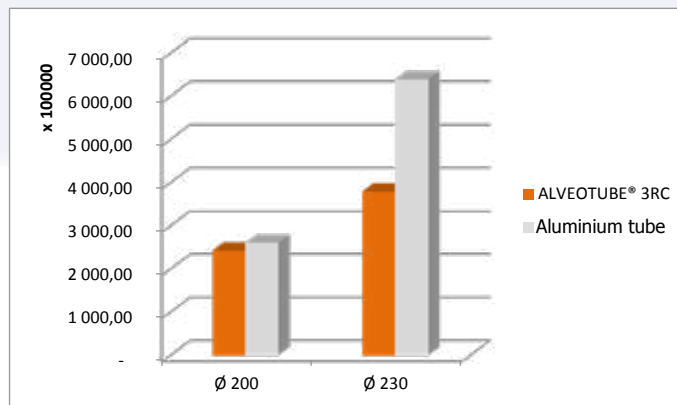
ALVEOTUBE® 3RC
RE assembly



Aluminium tube
Ball bearing assembly

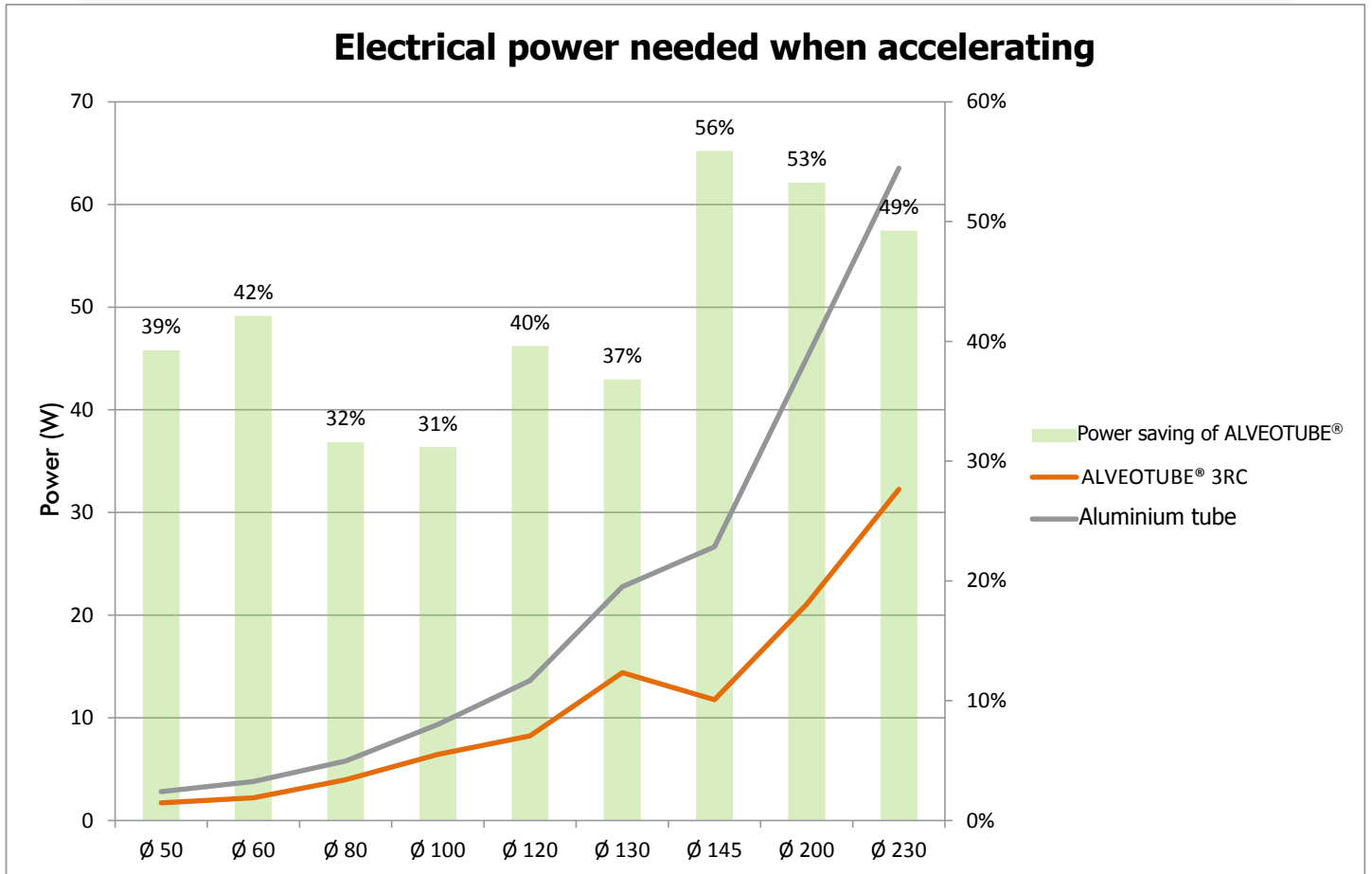


Inertia (g.mm²) for internal ball bearing assembly




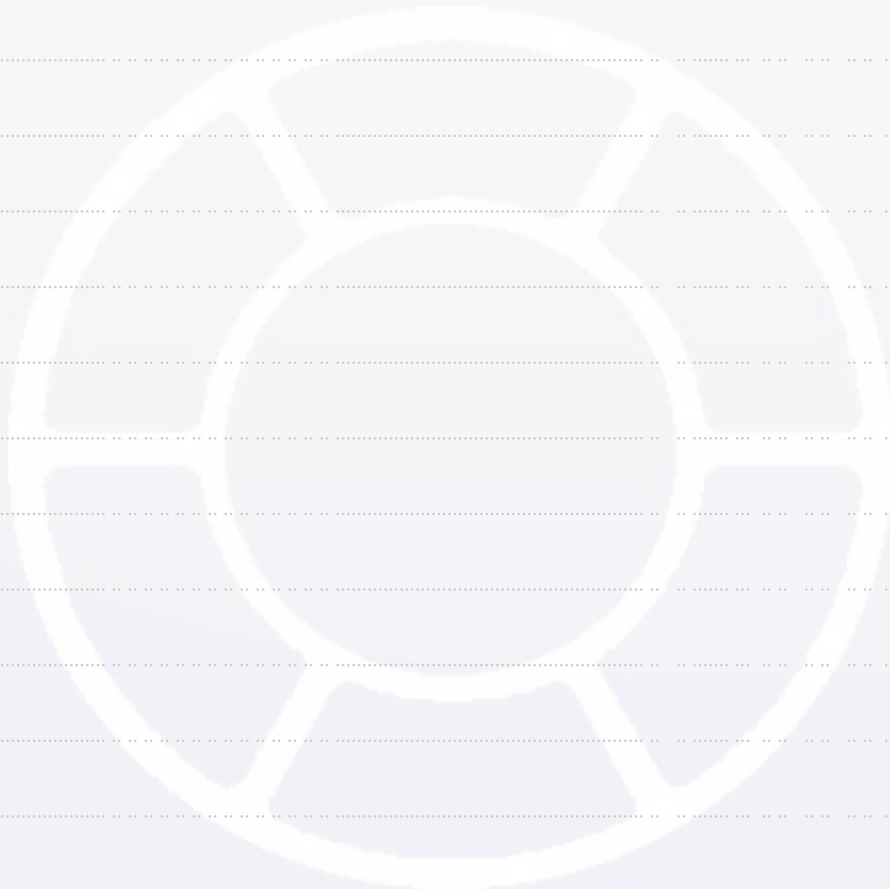
COMPARISON OF ELECTRICAL POWER NEEDED WHEN ACCELERATING

Steel journals assembly



Surface finishing

- 
- Straightening
 - Surface machining
 - Machining of helically fluted grooves
 - Surface coatings
 - Balancing



4. Surface finishing



STRAIGHTENING

ALVEOTUBE® profiles are made from aluminium extrusion. Extrusion is adapted to design of technical profiles with special features, but it can't be used with the basic straightness.

Straightening is recommended for all rollers over 1 meter.

ROLL CONCEPT® proposes to straighten the rollers in order to increase straightness. This straightening is controlled with a comparator on several points.

Profiles	3RC...							
	48	60	80	100	120	145	200	230
Rough straightness in mm/m	0,5						1	1,3
Straightness after a standard straightening in mm/m	0,35 à 0,4						0,5	0,7
Straightness after an extra care straightening in mm/m	0,2						0,3	0,5
Maximum length that can be straightened: 6 m								

SURFACE MACHINING

Our ALVEOTUBE® profiles (thanks to thickness of the external diameter) guarantee a good resistance, even after machining, but this resistance will be, of course, lower than a non-machined roller.

The performance in rotation of the rollers depends on concentricity between external and internal surface.

Surface machining increases concentricity and cylindricity of the roller.

Mountings (with ball bearing and journals) depend on concentricity. Rotation speeds can be increased without vibration.



Machining could be necessary in applications in which the web requires no vibration (created by a cylindricity default together with an high speed), for example:

- located close to a scanner, a printing head,
- a very low winding angle,
- etc.

3 RC	60	80	100	120	130	145	200	230	
Initial Ø (mm)	60 ^{±0,3}	81 ^{+0,7/-0,3}	101 ^{+0,6/-0,3}	121 ^{+0,7/-0,3}	130 ^{+0,7/-0,3}	145 ^{±0,5}	201 ^{±1,2}	230 ^{±1,5}	
Ø after machining (mm)	59 ^{0/+0,4}	80 ^{0/+0,4}	100 ^{0/+0,4}	119,5 ^{0/+0,4}	128 ^{0/+0,4}	143,5 ^{±0,2}	199 ^{0/+0,4}	228 ^{±0,2}	
Ra 1,6 (µm)	Standard								
Ra 0,8 (µm)	No							Option	
Polished Ra 0,4 (µm)	No							Option	
Concentricity (mm/m)	0,04 to 0,08		0,02 to 0,05					0,05 to 0,1	
Straightness* (mm/m)	0,05 to 0,1						0,1 to 0,2		

* Value directly depending on the length of the rollers

Machining of the external diameter directly influences the roller run ability under load.

Under request our R&D department can calculate theoretical bending.

MACHINING OF HELICALLY FLUTED GROOVES

Helically fluted grooves help to:

- Flatten the web on the roller,
- Avoid wrinkles,
- Centre or guide the web on one side.



These grooves are often used for non-breathable products (thick paper, plastic film, etc...) and trapping air between web and the roller.

The principle is then to evacuate the trapped air by grooves. Their position directly influences the run ability of the web.

4. Surface finishing



Simple helically fluted grooves:

Either right-handed or left-handed grooves are possible.
Used to guide the web on one side.



Helically fluted grooves starting from the middle:

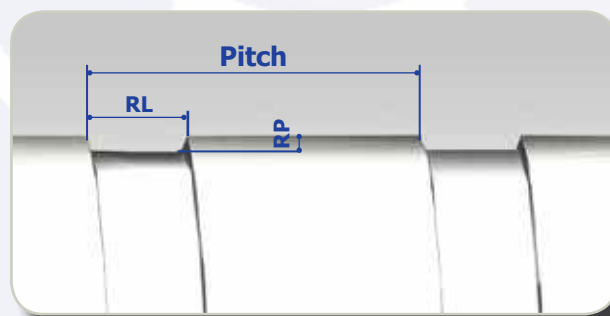
Used to center and avoid wrinkles on the web.



Helically double grooves:

Used to center, avoid wrinkles and flatten the web.

Dimensions of the groove:



3RC Profile	60	80	100	120	130	145	200	230
RL min.	2	2	2	2	2	2	3	3
RL max.	3	4	5	5	6	6	6	6
RP min.	0,2	0,3	0,3	0,4	0,4	0,4	0,5	0,5
RP max.	0,35	0,6	0,7	0,8	1,5	0,9	1	1,2
Pitch	On request, from 10 to 56 by 2mm steps							

SURFACE COATINGS

		Currently used coatings							
		Soft anodisation 15µ	Hard anodisation 50µ	Hard anodisation with PTFE (NITUFF)	Plasma coating	Anti-adhesive plasma coating	Extra polished tungsten carbide coating	Lining	Teflon coating
ALVEOTUBE® Profile	3RC48	Standard	< 4 000 mm	< 3 500 mm	On request	On request		< 6 000 mm	
	3RC60	Standard	< 4 000 mm	< 3 500 mm	< 5 000 mm	< 5 000 mm	< 5 000 mm	< 6 000 mm	< 5 000 mm
	3RC80	Standard	< 4 000 mm	< 3 500 mm	< 5 000 mm	< 5 000 mm	< 5 000 mm	< 6 000 mm	< 5 000 mm
	3RC100	Standard	< 4 000 mm	< 3 500 mm	< 5 000 mm	< 5 000 mm	< 5 000 mm	< 6 000 mm	< 5 000 mm
	3RC120	Standard	< 4 000 mm	< 3 500 mm	< 5 000 mm	< 5 000 mm	< 5 000 mm	< 6 000 mm	< 5 000 mm
	3RC130	< 4 000 mm	< 4 000 mm	< 3 500 mm	< 5 000 mm	< 5 000 mm	< 5 000 mm	< 6 000 mm	< 5 000 mm
	3RC145	Standard	< 4 000 mm	< 3 500 mm	< 5 000 mm	< 5 000 mm	< 5 000 mm	< 6 000 mm	< 5 000 mm
	3RC200	Standard	< 4 000 mm	< 3 500 mm	< 5 000 mm	< 5 000 mm	< 5 000 mm	< 6 000 mm	< 5 000 mm
	3RC230	< 4 000 mm	< 4 000 mm	< 3 500 mm	< 5 000 mm	< 5 000 mm	< 5 000 mm	< 6 000 mm	< 5 000 mm

For other length, contact us

NITUFF

Hard anodisation with PTFE decreases friction coefficient compared with standard hard anodisation.

EXTRA POLISHED CARBIDE COATING

Tungsten carbide coating combined with extra polish. Increases surface hardness of the roller (70 Hrc). Equivalent to hard chromium plating, avoid chipping of the coating.

ANTI-ADHESIVE PLASMA COATING

Like plasma coating but adding of PTFE or silicon in order to have a non-adhesive effect.



Particularly interesting for printing labels, plastic films, etc.

PLASMA COATING

Projection of nickel powder, carbide or ceramics which increases surface hardness and roughness of the roller.

LINING

Rubber (natural or synthetic), Polyurethane, with hardness from 25 to 95 Shores A.



*Lining used to realise nip rollers, anvil cylinders (perforating unit), etc.
Possibility, depending on the thickness of lining, to machine all types of grooves.*

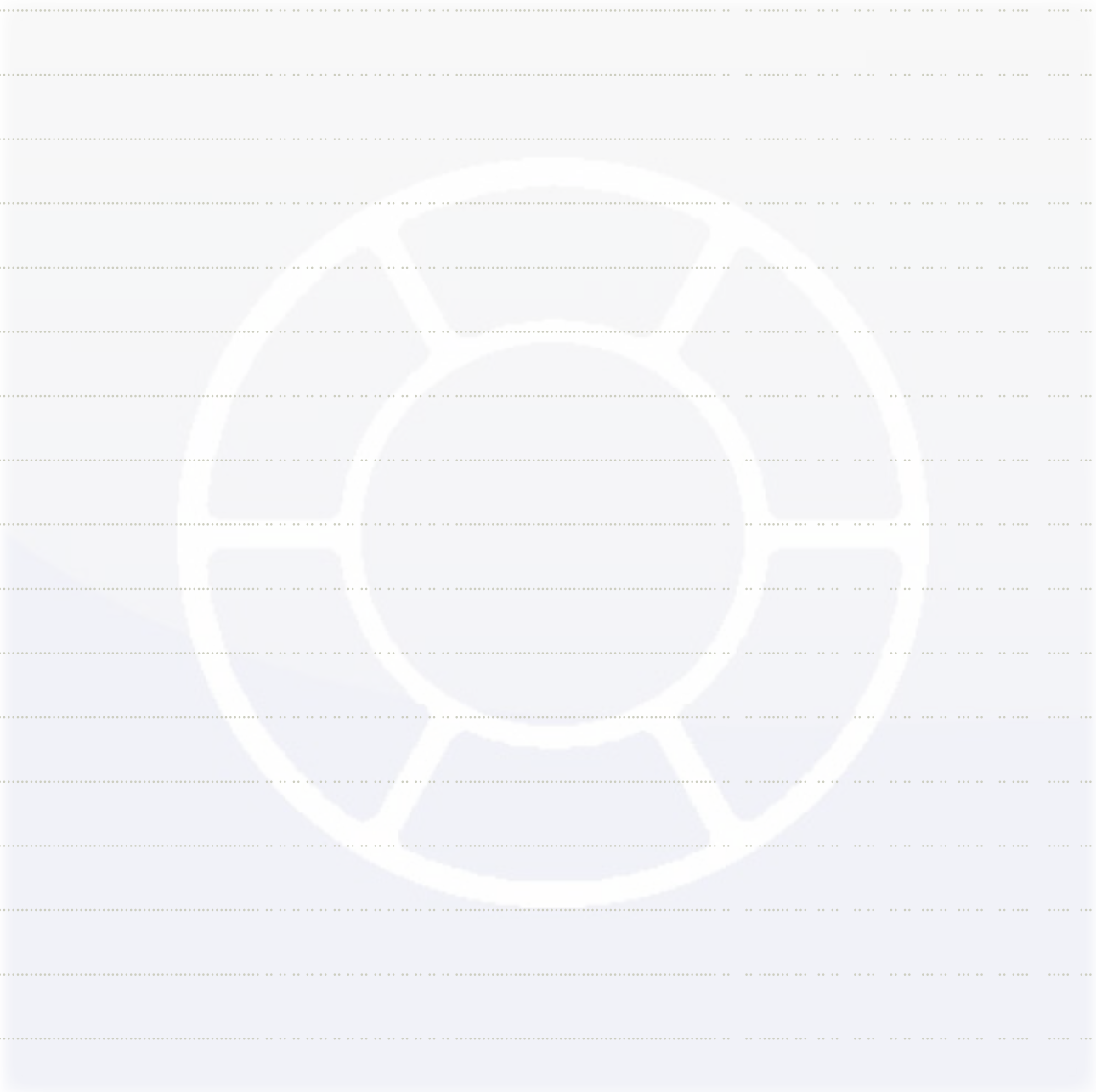
BALANCING OF THE ROLLER

ALVEOTUBE[®] rollers and winding cores can be balanced. As it reduces vibrations and then mechanical parts wear, balancing increases productivity allowing high speed. Balancing also reduces noise.

ROLL CONCEPT[®] realises G6.3 or G2.5 dynamic balancing (ISO N° 1940 standard).

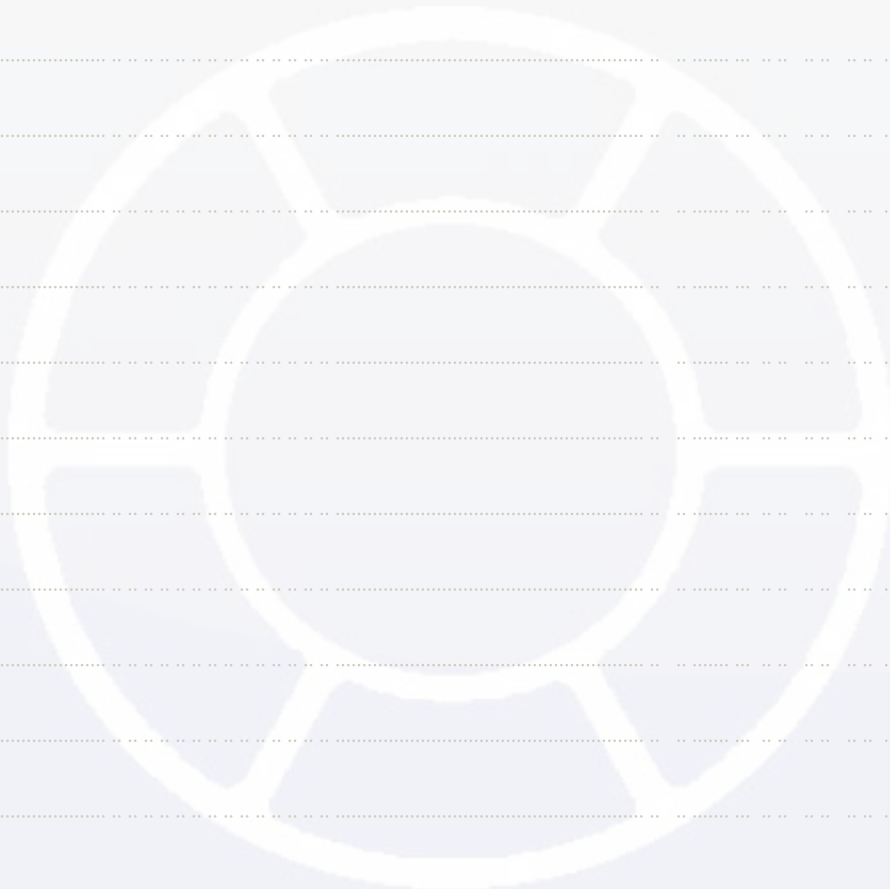
On request, a balancing report can be supplied.





Assemblies

- Journal assembly
- «Idler roller» assembly
 - Ball bearings
 - Fixed shafts
 - Lateral blocking
 - Inner ball bearing
 - Inner ball bearing housing in no beyond rigid plate
 - Inner ball bearing housing in beyond rigid plate
- Key points of different assemblies



Our ALVEOTUBE® profile allows many uses (lightly driven shaft, lightly handling stick), but it is mainly used to manufacture rollers, such as:

- Idler rollers mounted on shafts,
- Or fixed rollers with journals.

JOURNAL ASSEMBLY

Deflecting rollers with journals are adapted to mounting on existing machines.

This kind of assembly can be used for:

- Idler rollers mounted on external bearings (easy maintenance in case of ball bearings failure)
- Driven rollers



Journal with several diameters, tapping and key slot



Journal with square end

Protection end caps (mounted on all profiles except 3RC 48) are in stainless steel and impossible to remove when journals are mounted. They are 1mm thick and this thickness will be deducted from the table length.

Standard dimensions of the journals

3RC... rollers	48	60	80	100	120	130	145	200	230
Maximum Ø (mm)	30	35	46	51	66	78	114	160	
Max. recommended external length (mm)	100	140	160	240	250	300	310	500	
Internal length (mm)	50	60	70	90	110	140	230		

Other dimensions on request (after control by our R&D department).



*For 3RC 200 and longer, internal length is drilled in order to be lighter and then reduce inertia.
This can be done for other diameter, after resistance calculation.*

«IDLER ROLLER» ASSEMBLY



Ball bearings are mounted between the ALVEOTUBE® profile and supporting fixed shaft (passing through or end shafts)

Ball bearings (in most cases)

- Are of C3 type, in order to reduce friction inside, thus reducing the load torque of the roller.



Our ball bearings (C3 types, Z or ZZ types) are lubricated with a special grease which, compared with standard one, reduces torque of the ball bearing (and also noise), without influence on its lifetime.

NOTICE

Above 10' (0.16°) of bending from horizontal, we recommend to choose self-aligning bearings.

For long length, high load, high speed, etc..., it is better to ask for bending calculation in order to determine appropriate assembly.

Fixed shafts

- Are proposed in rectified steel h7, chromed steel f7 or stainless steel (if necessary).
- All machining are possible (in accordance with customer's drawing): tapped ends, several diameters, thread, etc.

ADD OF AN INTERMEDIARY SUPPORT

When a quite long passing through shaft is needed, and depending on the load, flexion of the shaft can disturb performance of the roller (balance change, lateral efforts on the ball bearings, friction in the inner diameter ...).

When you choose an assembly with a passing through shaft, flexion of this shaft has an important influence on good operation of the ball bearing and, thus, of the roller.

Ø of the passing through shaft (mm)	Ø12	Ø15	Ø20	Ø25	Ø30	Ø35	Ø40	Ø50	Ø60
Length of the shaft after which we recommend a bending calculation	1 200	1 500	1 800	2 200	2 500	2 800	3 200	3 500	4 000
Length of the shaft after which we recommend to use self-aligning ball bearings (mm)	2 000	2 200	2 700	3 000	3 200	3 600	4 000	4 300	4 800
Length of the shaft after which we recommend to use intermediary support (mm)	1 800	2 000	2 500	2 800	3 000	3 400	3 700	3 900	4 300

Intermediary support is made of material with special friction. It is maintained on the shaft by 2 safety rings. When calculating charges on the roller, the intermediary support increases charge. It corresponds to the weight of the shaft divided by the number of supports.

Intermediary supports bring friction. For applications sensible to friction or in case of high speed, it may be of interest to study the possibility to use end shafts instead of one passing through shaft.



Our R&D department remains at your disposal for helping you to dimension shaft diameter, in accordance with your application.

Lateral blocking of the roller

- Made by safety rings or stop rings, depending on customer's requirements.

RI assembly



Basic version, the ball bearing is mounted directly in the inner diameter.

When the profile is thick enough (from 3RC 80) a snap ring groove can be done in order to block the ball bearing in the profile.

Generally, we supply passing through shaft but for light applications, we can supply end shafts.

		Recommended shaft diameter							
		Ø12	Ø15	Ø20	Ø25	Ø30	Ø35	Ø50	Ø60
ALVEOTUBE® profile	3RC 48	RI..48/12	RI..48/15						
	3RC 60	RI..60/12	RI..60/15	RI..60/20					
	3RC 80		RI..80/15	RI..80/20	RI..80/25				
	3RC 100			RI..100/20	RI..100/25	RI..100/30			
	3RC 120				RI..120/25	RI..120/30	RI..120/35		
	3RC 130					RI..130/30	RI..130/35		
	3RC 145					RI..145/30	RI..145/35		
	3RC 200							RI..200/50	RI..200/60
	3RC 230								RI..230/60

To be confirmed depending on the load.

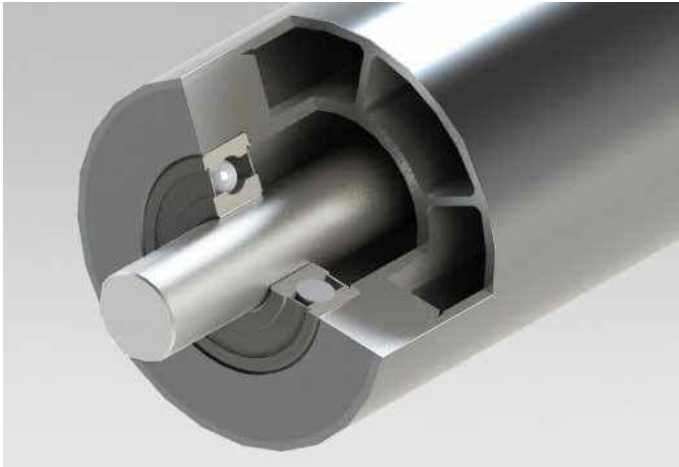


This assembly, even if used on machined with 200 m/min minimum speed, is often used for light applications and/or table length up to 1 meter.

Depending on your **application** (roller length, load, etc.) ball bearings used can be:

		Sealing type		
		Without sealing	With sealing (2RS type)	With shields (ZZ type)
Ball bearing type	Radial ball bearing	Possible but needs regular greasing	RI.../..	RIX.../..
	Self-aligning ball bearing	RIOX.../..	RIO.../..	

RE assembly



In that case, the ball bearing is fixed in a rigid plate (in steel or aluminium), mounted in the external diameter of the profile.

Ball bearings are then no beyond, but this assembly needs a special machining (remove the alveolus by the length of the rigid plate).

A safety ring groove can be machined on request.

We usually supply passing through shaft but, for big length, it may be better to mount shaft ends in order to avoid bending of the shaft inside the profile (and then touch the inner diameter).

		Recommended shaft diameter								
		Ø12	Ø15	Ø20	Ø25	Ø30	Ø35	Ø40	Ø50	Ø60
ALVEOTUBE® profile	3RC 48	RE..48/12	RE..48/15	RE..48/20						
	3RC 60	RE..60/12	RE..60/15	RE..60/20	RE..60/25					
	3RC 80		RE..80/15	RE..80/20	RE..80/25	RE..80/30				
	3RC 100		RE..100/15	RE..100/20	RE..100/25	RE..100/30	RE..100/35			
	3RC 120			RE..120/20	RE..120/25	RE..120/30	RE..120/35	RE..120/40	RE..120/50	
	3RC 130				RE..130/25	RE..130/30	RE..130/35	RE..130/40	RE..130/50	RE..130/60
	3RC 145				RE..145/25	RE..145/30	RE..145/35	RE..145/40	RE..145/50	RE..145/60
	3RC 200				RE..200/25	RE..200/30	RE..200/35	RE..200/40	RE..200/50	RE..200/60
	3RC 230						RE..230/35	RE..230/40	RE..230/50	RE..230/60

On request and after control by our R&D department, smaller diameters than those recommended can be mounted.

To be confirmed depending on the load.

Depending on your **application** (roller length, load, etc.) ball bearings used can be:

		Sealing type		
		Without sealing	With sealing (2RS type)	With shields (ZZ type)
Ball bearing type	Radial ball bearing	Possible but needs regular greasing	RE../..	RE X ../..
	Self-aligning ball bearing	RE O X../..	RE O ../..	

BI.L / BI.C assembly



BI.L with passing through shaft



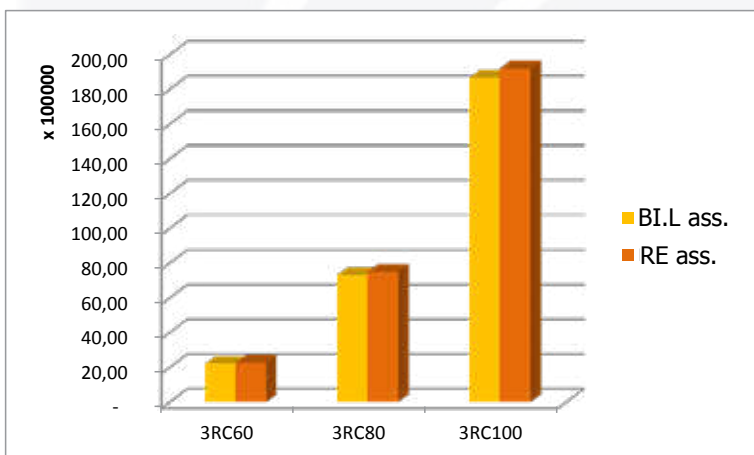
BI.L with end shafts



BI.C with passing through shaft

Compared with RE... version, this assembly has the following advantages:

- Reduces inertia (and then load torque), as long rigid plate (**BI.L version**) and short rigid plate (**BI.C version**) are fixed in the inner diameter of the profile.



BI.L assembly reduces by 3 to 5% the moment of inertia of the mounted roller, compared with a **RE** assembly

- Reduces mounting cost of the roller:
 - Less material to manufacture the rigid plates.
 - We have just to machine the inner diameter.



Those assemblies also make easier replacement of a passing through shaft by ends shafts. When table length is important, a passing through shaft can touch the inner part of the 3RC profile.

To be avoid when the shaft is used as a reinforcement of a machine frame.

Nevertheless, shaft diameters that can be mounted are less important that with a RE version. When important load, it is advisable to choose RE version.

Standard assembly

		Recommended shaft diameter										
		Ø10	Ø12	Ø15	Ø17	Ø20	Ø25	Ø30	Ø35	Ø40	Ø50	Ø60
ALVEOTUBE® profile	3RC 48											
	3RC 60	BI.C*	BI.C/BI.L	BI.C*/BI.L		BI.L*						
	3RC 80	BI.C		BI.C/BI.L	BI.C	BI.L	BI.L*					
	3RC 100			BI.C		BI.C/BI.L	BI.L	BI.L*				
	3RC 120				BI.C	BI.C	BI.C/BI.L	BI.L	BI.L			
	3RC 130						BI.C	BI.C/BI.L	BI.C/BI.L			
	3RC 145						BI.C	BI.C/BI.L	BI.C/BI.L			
	3RC 200									BI.C	BI.C/BI.L	BI.C/BI.L
	3RC 230										BI.C	BI.C/BI.L

* Special ball bearing

BI.L rigid plates are manufactured to be mounted **with 2 ball bearings and, thus, have a mounting with end shafts.**

For each profile, those assemblies are of course possible **with smaller shaft diameters.**

To be confirmed depending on the load.

		Sealing type		
		Without sealing	With sealing (2RS type)	With shields (ZZ type)
Ball bearing type	Radial ball bearing	Possible but needs regular greasing	OK	OK
	Self-aligning ball bearing	To be controlled	To be controlled	

5. Assemblies

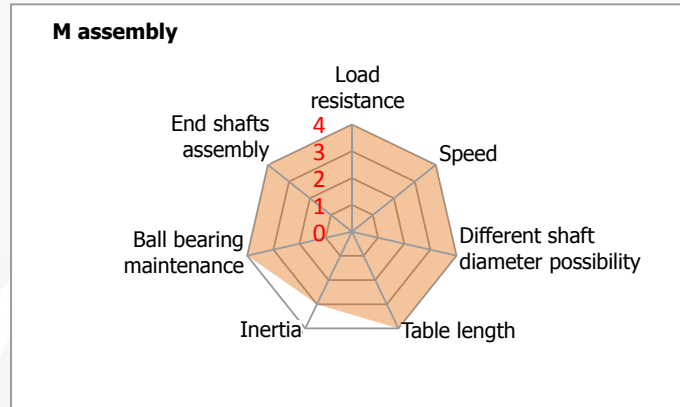


Hereunder drawings represent pros of the different assemblies, with comparison points. Depending on application and use, different assemblies will be more or less adapted.

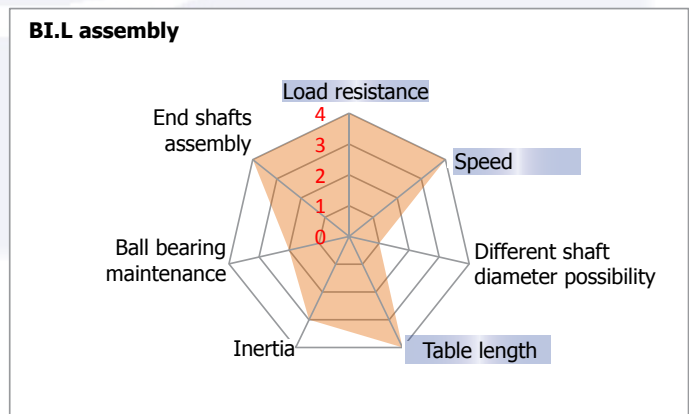
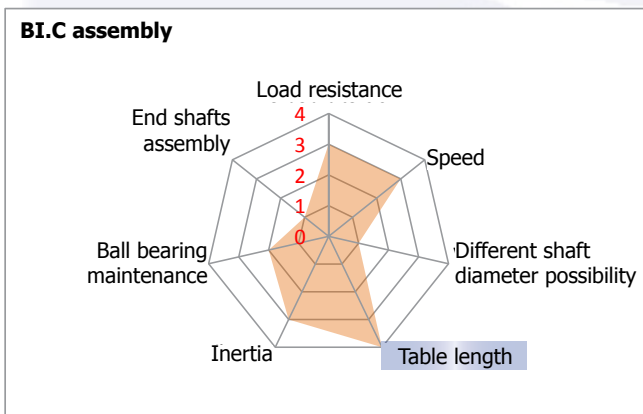
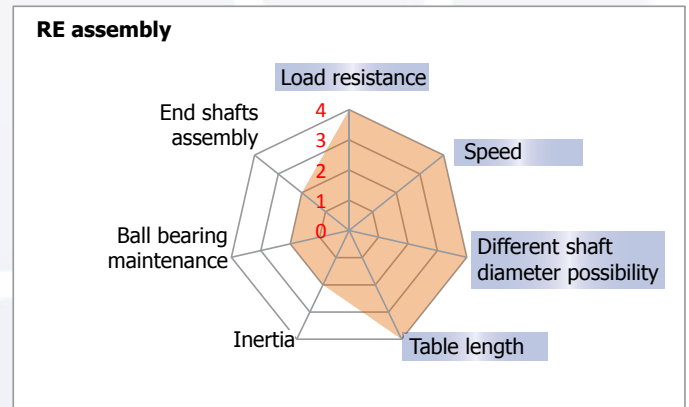
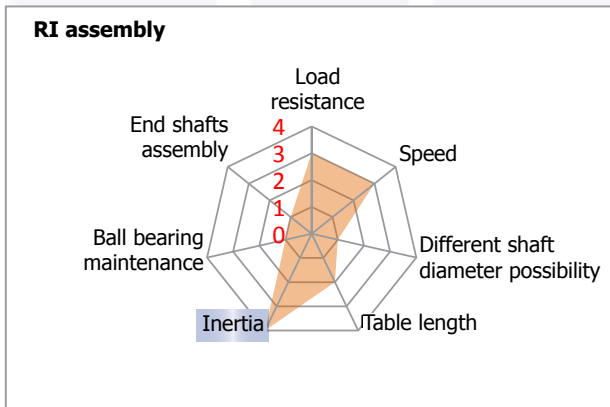
Each comparison points are noted from 1 to 4:

- 1 corresponds to a low adaptation level,
- 4 to an optimal level.

Assembly without ball bearing



Ball bearing assemblies



Specific rollers

- Thermal roller
- COREXAL® adaptor
- Spreader rollers and other uses

THERMAL ROLLER



With their design, 3RC ALVEOTUBE® profiles can be used to have a cold fluid (air or liquid) passing through the alveolus.

There are no standard rollers for these versions. Applications are always very specific and adapted to the customer's needs.

Advantages of a thermal roller based on ALVEOTUBE® are:

- Excellent thermal transfer thanks to the thin skin and the aluminium structure (2 to 3 superior to steel)
- 50% less weight compared with a double envelop steel roller
- Low inertia when full

		Mostly used assemblies					
		Volume (dm ³ /m)	Rotating union type	Mini shaft Ø	Input rigid plates	Journals	Rotating union
ALVEOTUBE® thermal roller	3RC 120	6	G ½	Ø 35	Aluminium	Zinc coated steel, Stainless steel, Aluminium	Can be supplied on request
	3RC 145	8,6	G ½	Ø 35			
	3RC 200	15,8	G 1	Ø 50			
	3RC 230	15,5	G 1" ¼	Ø 50			

PASSING THROUGH: Admission and exhaust on opposite side. 2 monoflow rotating unions are necessary



NO PASSING THROUGH: Admission and exhaust on the same side. 1 duoflow rotating union + 1 central circulation tube are necessary.

Can be interesting when the product in contact with the roller not react very well to big temperature differences between admission and exhaust (paper, etc.).

Other versions can be studied:

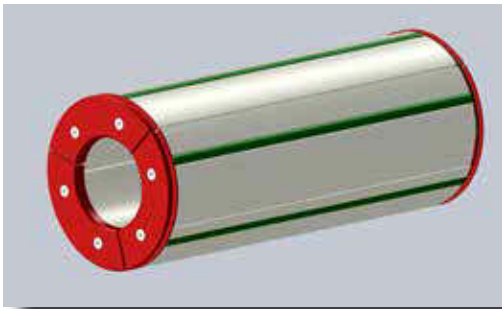
- Smaller ALVEOTUBE® diameter,
- Different fluid,
- Etc.



Thermal roller mounted as idler roller

CONTACT US!

COREXAL® ADAPTOR



COREXAL® adaptor has been designed to fasten adaptation operation of the winding core's users. In few seconds, you can transform a 3" or less expanding shaft into a 6" or higher diameter one (see below);

Its expansion follows the expanding shaft's inflation on which it is installed. When the expanding shaft is deflated, it is reduced through O'ring seals on both sides of the adaptor.

The cardboard (or PVC) tube is maintained on the Corexal by 6 rubber round cord positioned on the external diameter

Can be used alone (for small width webs) or by pair.



No damage of the expanding shaft.

No specific tools needed.

Easy maintenance.

		External Ø	Inner Ø	Length	Weight (for a 300 mm length)	Surface finishing
Corexal®	Deflated	148 mm	76 mm	70 mm to 1 000 mm	4,4 kg	Anodisation 15µ
	Exhausted	155 mm	80,5 mm			

Possible transformation

Expanding shaft Ø	Internal winding core Ø
68 mm - 69 mm	150 mm
68 mm - 69 mm	152 mm
74 mm - 75 mm	150 mm
74 mm - 75 mm	152 mm



For length over 500mm, a special reinforced version (with 2 O'ring seals on both sides) would be more adapted.

Our R&D department has studied many rollers adapted to special applications.
Don't hesitate to contact us for any request!



Lateral adjustable rollers (expanding assembly rings)

Applications:

- precise adjustment to overall length
- independent applicator rollers



Thanks to the alveolus, we can make holes and keep a good resistance to bending.

Applications:

- sheet deceleration rollers (by adding a suction system)
- turn bar (with a blowing generator)
- winding mandrel on which the product can «breathe»



Spreader-spring rollers

Pitch, thickness, type of profile adapted to your application.

See also helically fluted grooves page 21



Price enquiry on reverse

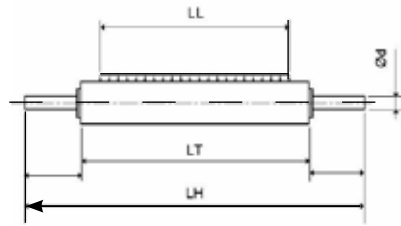
To be sent by e-mail: rollconcept@spoolex.com

or fax: +33 (0) 477 29 36 80

ENQUIRY

SIMPLIFIED PRICE ENQUIRY

Just describe your need and we'll contact you to define it precisely together!



Data	Values	Units	Remarks
Application			
LT: Table length		mm	
Roller Ø		mm	<input type="radio"/> Need an advice?
Surface finish	<input type="radio"/> Ra1,6 µm <input type="radio"/> Ra0,8 µm <input type="radio"/> Rough <input type="radio"/> Polished - Ra0,4 µm		<input type="radio"/> Need an advice?
Surface coating	<input type="radio"/> Hard anodisation <input type="radio"/> Lined <input type="radio"/> Other <input type="radio"/> Teflon <input type="radio"/> Plasma		<input type="radio"/> Need an advice?
Load on roller		DaN (kg)	
Rotation speed		m/min	
Temperature		°C	
Number of rollers			
Assembly	<input type="radio"/> Passing through <input type="radio"/> End shafts		<input type="radio"/> Idler roller/shaft <input type="radio"/> Fixed roller/shaft
LH : Length		mm	
Ød: Shaft Ø		mm	<input type="radio"/> Need an advice?
Shaft machining	<input type="radio"/> Tapped ends at both sides <input type="radio"/> Safety ring groove(s) <input type="radio"/> Square ends <input type="radio"/> Flat ends	Qty :	

Drawing:

Send us a drawing if possible

Don't hesitate to send us your requirement!

CONTACT INFORMATION

Company:

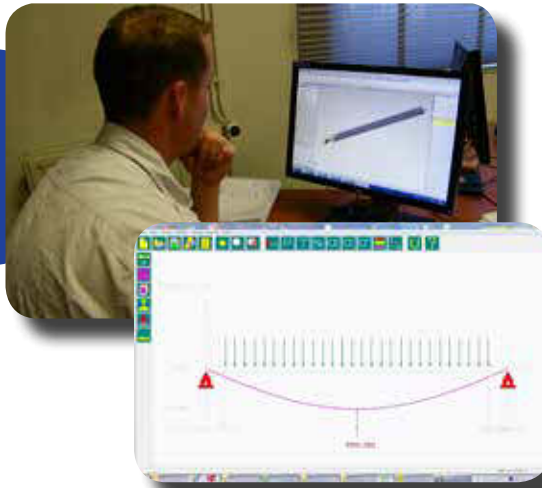
Last name, First name:

E-mail:

Phone:

Integrated R&D department

Our integrated R&D department allows us to supply products perfectly adapted to your needs.



Applications

Textile •

Non woven •

Rubber & Tires •

Plastic •

Packing •

Flooring •

Printing/Paper •

Conveyor •

Adhesives •

... •

Roll Concept® quality

Light, concentric, balanced, low inertia rollers and up to 7m!



Flexibility Reactivity

Our reactivity and adaptability allow us to offer good delivery time.



Roll Concept®
is a Spolex SAS brand,
certified company

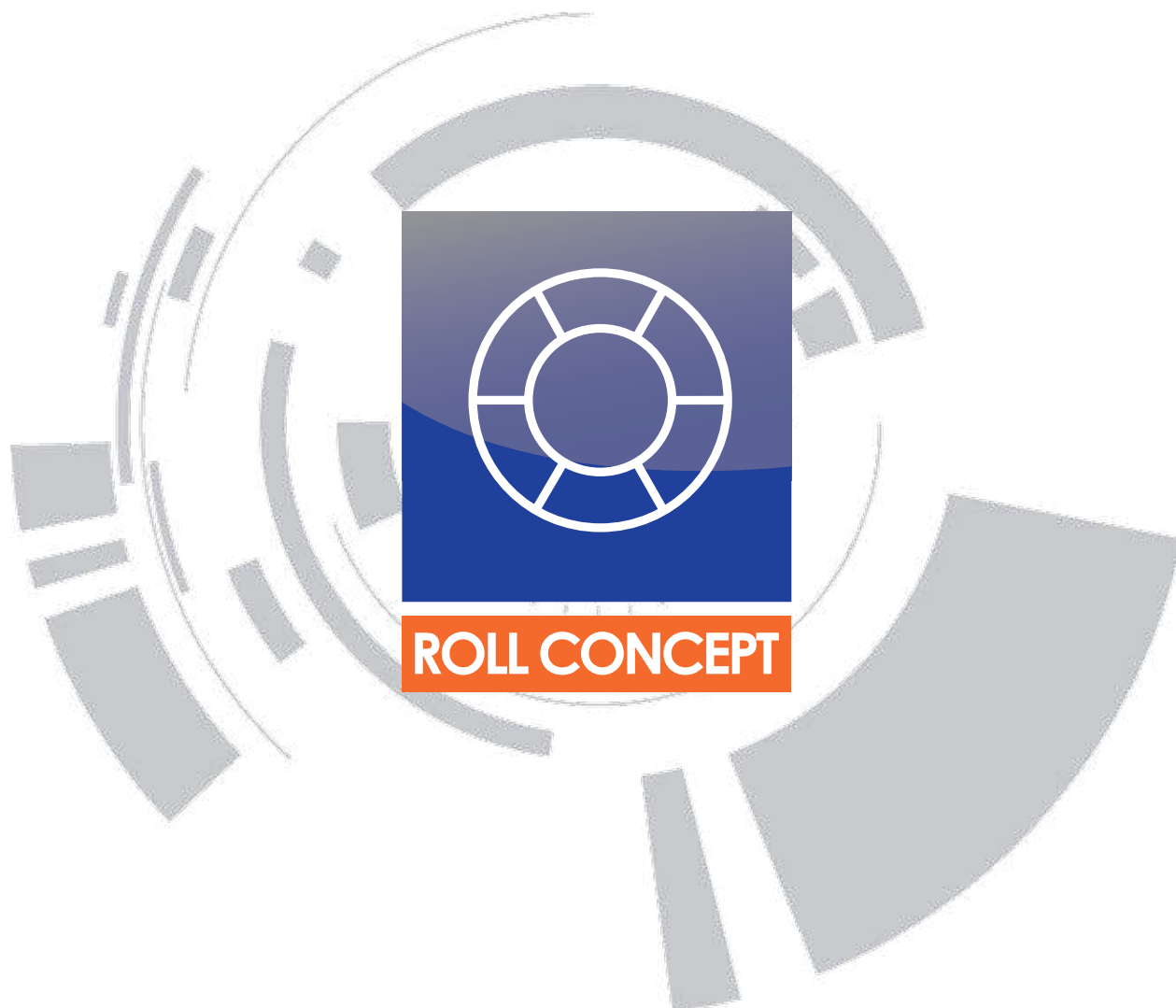


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141024-C1227

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Roll Concept is a Spoolex SAS brand



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