

Company

SECIL's highly automated factory in Turkey and Belarus produce thousands of different seals every year, with a high level of quality management for different sectors. We have know-how regarding rubber mixing, moulding, machinery, rubber extrusion, and injection. Experience on different production processes like covered seals, mono, co-ex, tri-ex, with cord, metal insert or many others.

Seal Quality & Performance

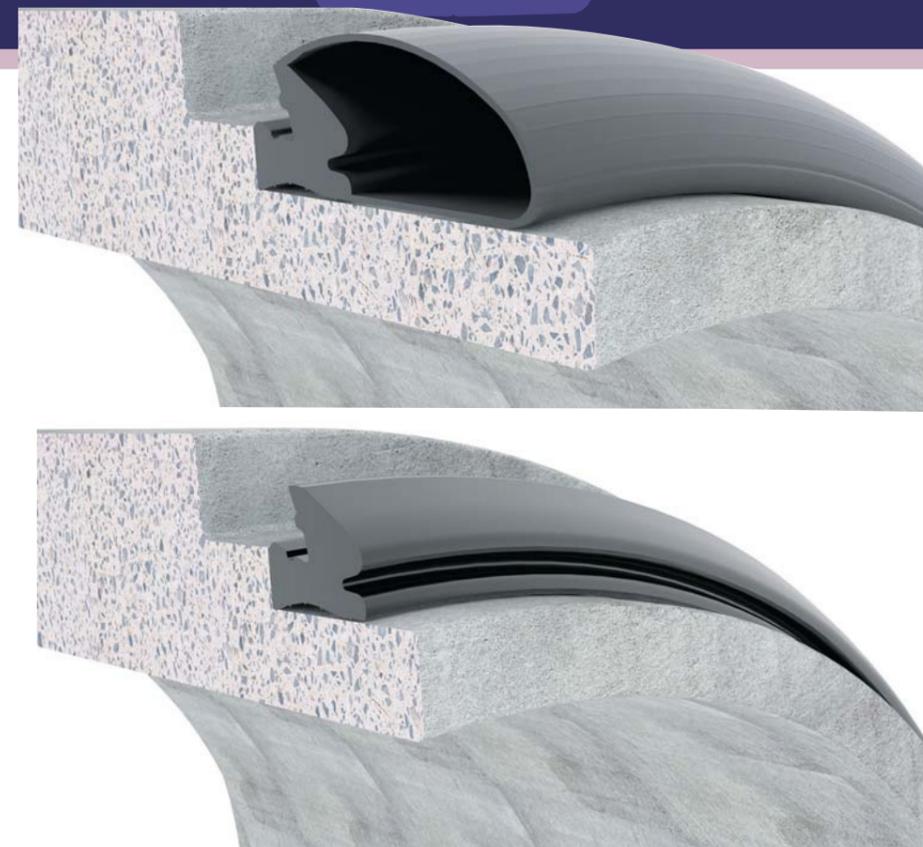
SECIL quality controls from incoming raw materials to finished products are made by specialists independent of the production process of Secil. Tests are also made by third part controlling company upon demand. This double quality control guarantees a constant quality of all SECIL products.

Angel

Co-ex
Pre-Lubricated
Seal for
Manhole & Pipes

Spigot Lip Seal

Spigot Seal
for Low Pressure
Manhole & Pipes



CERTIFICATIONS

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Example of authorities Seçil Kauçuk cooperating with



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SECİL[®]
KAUÇUK



SPIGOT LIP SEAL



Apply lubricant to the whole surface around the pipe spigot before assembly. Pay special attention to the front edge of the spigot.

Seal Performance and Assembly Instructions

The seal is primarily designed for concrete pipe and manhole installations. Lip seal meets or exceeds the requirements of the standards EN 1916 / 1917.

Pipe ends should be cleaned, seal stretched onto pipe spigot and position against the shoulder as shown on the picture above.

Equalize the tension by lifting and releasing the seal at several points, apply the lubricant and perform the assembly process.

The seal is compressed when the pipe spigot is inserted into the socket, creating a positive sealing pressure under both internal and external pressure.

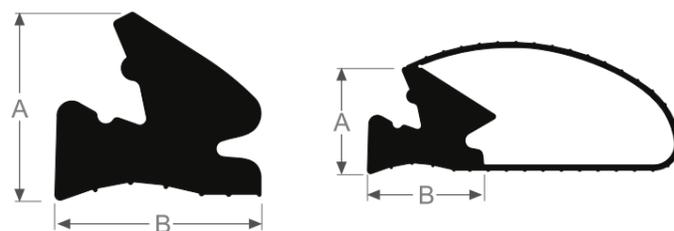
The geometry of the seal makes pipes centering easier during joining.

The special design of the seal gives:

- Very low assembly force and centered pipes
- Excellent sealing capability under both internal and external pressure
- Excellent sealing capability when angular deflection is applied
- Good distribution of vertical shear load.

Example of sizes

Nominal Profile Dimensions (mm)		
	A	B
Angel	20	23.20
	24.5	27.6
Spigot	19	20
	22	25
	26	31

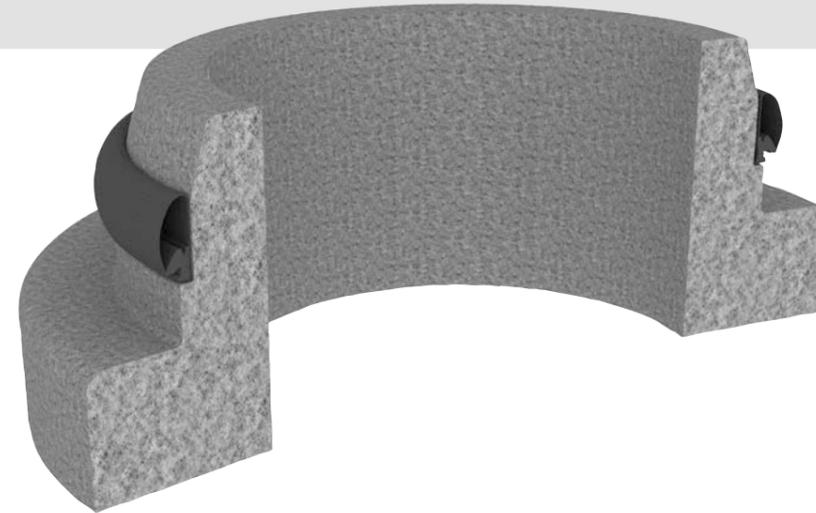


Material

- EPDM rubber mixing is our main strength.
- SBR, NBR or different material are available on inquiry.
- In all cases, we use compound from our own mixing facilities.
- Ready EPDM compound 40-50-60-70 IRHD according to TSE and EN 681-1
- Other standards are available on request.
- EPDM is the most popular material protected against ozone and high chemical resistance.
- Oil resistant grades are available on request.

Seal Packing & Marking

- Different packing possibilities prepared on our customer needs.
- Secil seals are marked with seal dimension and the date of manufacture.
- The box is labelled with the corresponding data.



ANGEL™ Co-Ex Pre-lubricated Seals

Angel Pre-lubricated product made from high quality EPDM material and manufactured in co-ex technology to the highest production standard of the rubber gasket industry. The Co-EX production way gives us possibility better process controlling. We are able to use different materials and colours in one product.



Small changes can make big differences.

- Angel is installation-friendly.
- Angel need less installation time and lower costs.
- Angel is available in different material or different colours.
- Angel reduced insertion force.
- Angel specially formulated internal lubrication.
- Angel is available for manhole & pipe offset joints.
- Angel Pre-lubricated product is in accordance with the requirements of EN 681-1/DIN 4060 – seals made from EPDM rubber.

Seal Design & Requirements

Secil work closely together with pipe and machine manufacturers with regard to design of correct pipe seals. We have know-how regarding pipe production and seal assembly. We can also provide technical support to our customers with sales support in different languages in a range of different countries.

* Values and properties shown in diagrams and tables are not subject to any guarantees. Our warranty is limited to the values and properties as required by the relevant standards.
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Seçil Connector Seal (Patent Pending)

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Seal Quality & Performance

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CERTIFICATIONS

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“Secil Connector Seal” is a rubber seal for flexible connection of pipes to manholes and laterals to pipelines. It can be used with both prefabricated and drilled holes and all kinds of pipes, including SWP (Structural wall pipe).

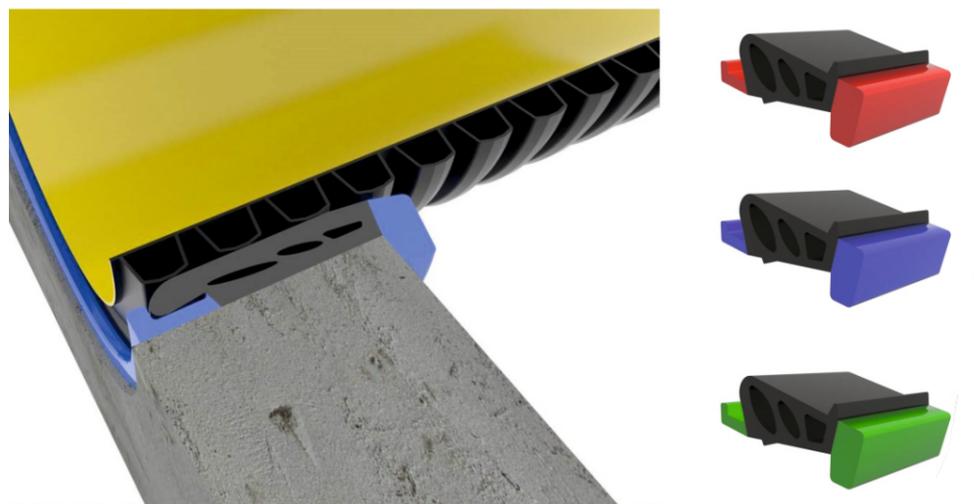
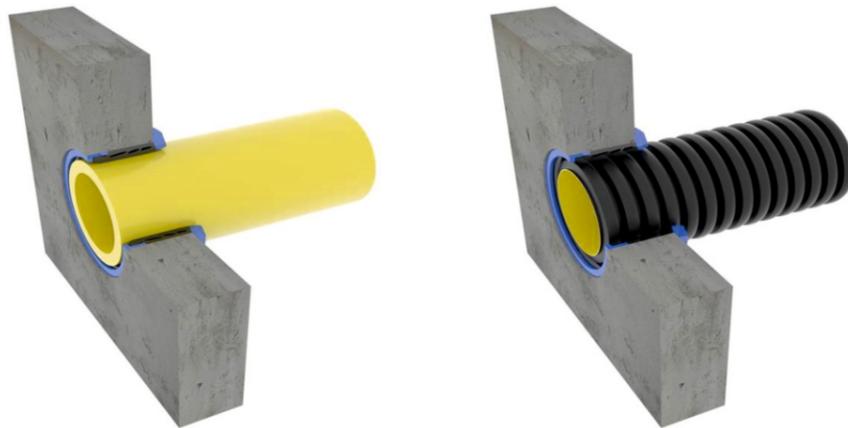
Material

- **Synthetic rubber EPDM** is our main strength.
- Hardness 40+5 and 70+5 [Coextruded]
In all cases, we use compound from our own mixing facilities.
- Approved accordance with EN 681-1
- EPDM is the most popular material protected against ozone and high chemical resistance.

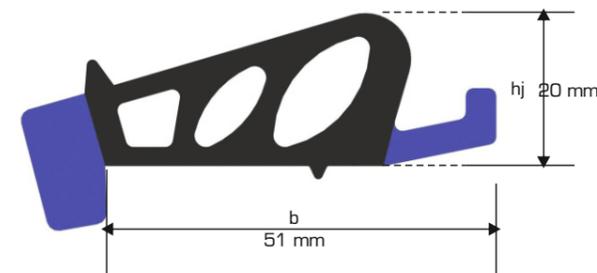
Seal Packing & Marking

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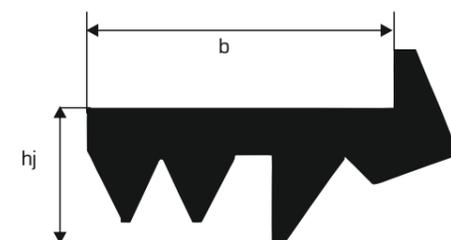
➤ Secil Connector Seal is applicated into place as shown below



➤ Different hardness values for comfort and functionality



DN	Profile Type	hj	b
≥160mm	Secil New Connector	20 mm	51 mm



Standart Connector

DN	Profile Type	hj	b
110mm	Standart Connector [Moulded]	20 mm	50 mm
≥60mm	Standart Connector	20 mm	50 mm



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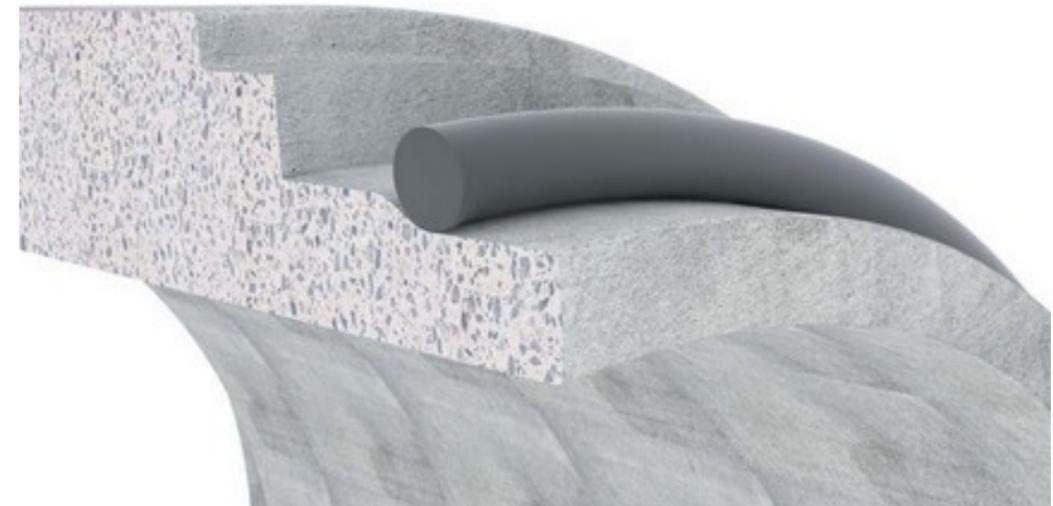
O-ring Seals

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Secil O-ring is a compression seal for use on the spigots of concrete, GRP pipes or manholes, primarily intended for non-pressure and low pressure applications.

Material

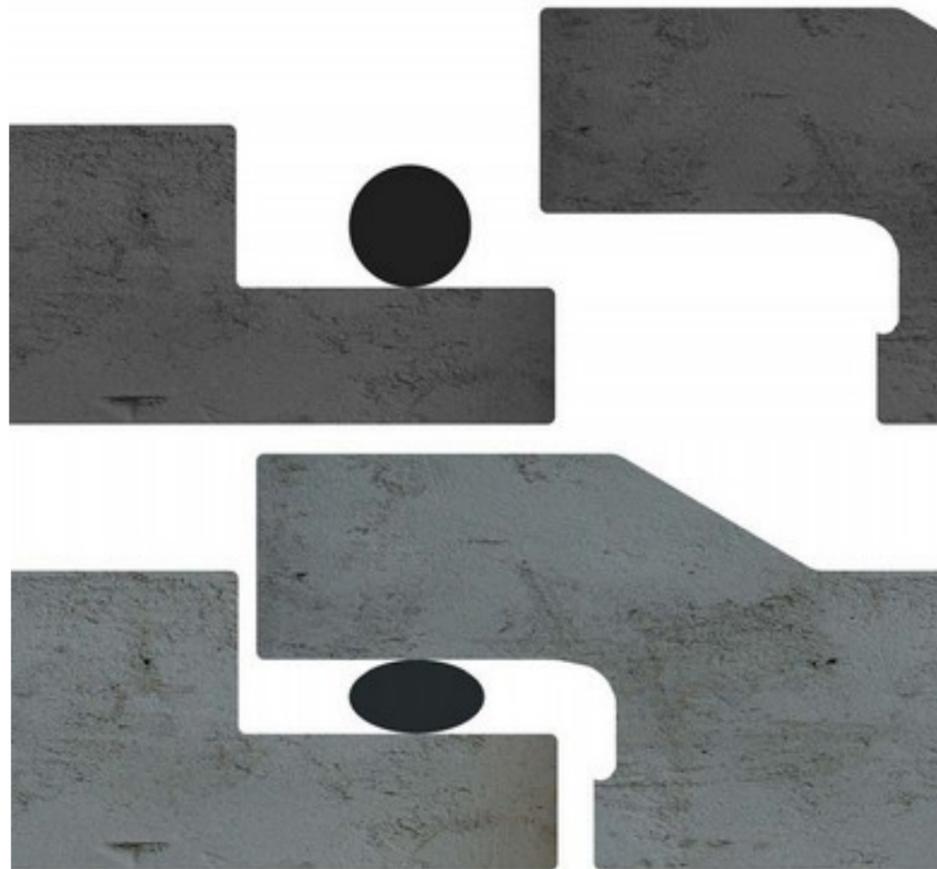
- EPDM rubber mixing is our main strength.
- SBR, NBR or different material are available on inquiry.
- In all cases, we use compound from our own mixing facilities.
- Ready EPDM compound 40-50-60-70 IRHD according to TSE and EN 681-1
- Other standards are available on request.
- EPDM is the most popular material protected against ozone and high chemical resistance.
- Oil resistant grades are available on request.
- EPDM can be expected to outlast the pipes lifetime.

Seal Packing & Marking

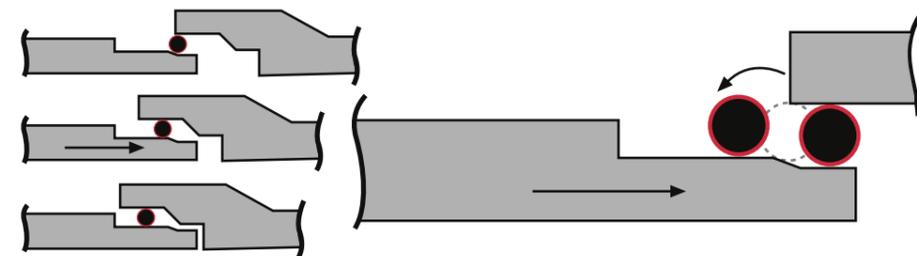
- Different packing possibilities prepared on our customer needs.
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Characteristic Joint Design

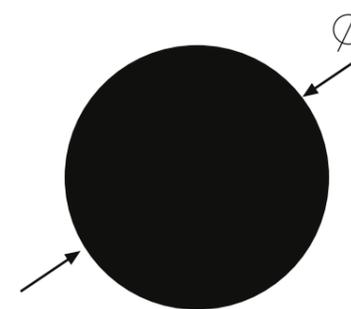
The joint construction of today is adopted to standard in many countries. A drawing is available from Secil on request.



O-ring is rolled into place as shown below



Sizes



Secil O-Ring is manufactured in large number of cross sections and diameters. Please contact us for more information, technical advice and joint design recommendations to meet your performance requirements.



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Integrated Seals for Concrete Applications

SECIL integrated sealing for gravity and low pressure concrete pipes and manholes. The sealing ring is cast-in and becomes a part of the pipe socket.
SECIL Integrated seal is in accordance with the requirements of TSE and EN 681-1 / DIN 4060 – seals made of EPDM rubber.
SECIL connection for concrete pipes and reinforced concrete pipes according to DIN EN 1916 and DIN EN 1917, whereby the seal is firmly embedded in the socket during manufacture of the pipe.

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Integrated Sealings

Seals for Concrete Applications

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- **EPDM** is the most popular material protected against ozone and high chemical resistance.
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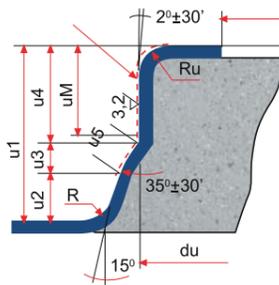
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Pipe requirements for high performance of SECIL Integrated Seal

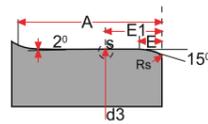
(All dimensions in mm)

Concrete pipes and reinforced concrete pipes must comply with the requirements of DIN EN 1916.

Socket end dimensions

DN	U1	U2	U3	U4 -0/+0,5	U5 min	Ru	du 4032 4035	Tolerance du
150	60	16,6	10,9	32,5	13	10	199,4 213,4	-0/+0,5
200	-	-	-	-	-	-	257,4 263,4	-
250	80	22,6	13,9	43,5	16	13	315,6 341,6	-0/+0,5
300	-	-	-	-	-	-	377,6 395,6	-
400	85	20	16	49	18	13	486,2 495,5	-0/+0,5
500	90	25	-	-	-	-	600,2	-
600	-	-	-	-	-	-	716,2	-
700	100	22,6	23	54,4	26	15	831,4	-0,4/+0,8
800	-	-	-	-	-	-	949,4	-
900	-	-	-	-	-	-	1067,4	-
1000	-	-	-	-	-	-	1185,4	-
1100	-	-	-	-	-	-	1303,4	-
1200	-	-	-	-	-	-	1421,4	-
1300	125	30	28	67	32	17	1536,6	-0,7/+0,7
1400	-	-	-	-	-	-	1654,6	-
1500	-	-	-	-	-	-	1772,6	-
1600/2000	145	30	35	80	41	19	d3+2w-2dr	-0,8/+0,8

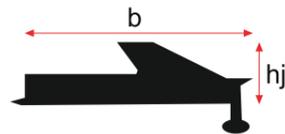
Spigot end dimensions



Recommended sealing ring deformation is 30% to 40%. Extreme sealing ring deformation due to concrete tolerances 26,5% to 43,5%. With milled spigot ends recommended deformation is equal to extreme tolerance value.

DN	E	Rs	Isp	E1	dsp 4032 4035	Tolerance dsp recom. (extreme value)
150	12,5	8	65	28	206 220	-0,5/+1,0 (-1,2/+1,7)
200	-	-	-	-	264 270	-
250	17	13	85	39	324 350	-0,7/+1,2 (-1,5/+2,0)
300	-	-	-	-	386 404	-
400	20	13	90	43	496 505,3	-0,9/+1,4 (-1,9/+2,4)
500	-	-	95	-	610	-
600	-	-	-	-	726	-
700	20	15	105	47	844	-1,0/+1,4 (-2,2/+2,6)
800	-	-	-	-	962	-
900	-	-	-	-	1080	-
1000	-	-	-	-	1198	-
1100	-	-	-	-	1316	-
1200	-	-	-	-	1434	-
1300	25	16	130	58	1552	-1,5/+1,5 (-3,0/+3,0)
1400	-	-	-	-	1670	-
1500	-	-	-	-	1788	-
1600/2000	30	18	150	69	variable	-1,8/+1,8 (-3,6/+3,6)

PS Seal



DN	profile type	hj	b
225 - 300	PS Seal	12	29,9
400 - 1000	PS Seal	14	33,8
500 - 1000	PS Seal	18	43,4
1000 - 1500	PS Seal	22	53,0
1500 - 2000	PS Seal	26	62,4



Integrated Seal Requirements

SECIL work closely together with pipe producers for their needs of correct concrete pipe seals or manhole seals. We have know-how regarding pipe production and seal assembly. We can also provide technical support to our customers with sales support in different languages in a big range of different countries. SECIL Integrated seal can be easily connected with the pipe or manhole. It is mounted on the base ring and is anchored during manufacture of the pipe in the pipe socket. After removal of the base ring the SECIL Integrated socket is ready for installation.

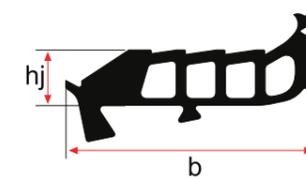
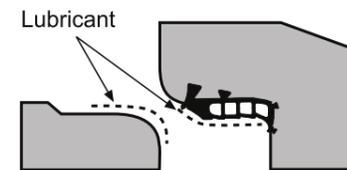


Producing Pipes with Secil Integrated Seals and Secil Integrated Seal Dimensions



SECIL Integrated seal stretch on the cleaned and lightly oiled base ring. Ensure correct seating and even pre-stretching of the sealing ring. Before vibrating ensure that the socket is completely filled with concrete. Then produce concrete pipe in normal manner.

After removal of the pipe mould, place inner and outer supporting rings on the spigot end and leave them there until concrete has cured. Pull base ring centrally, remove supporting rings.



SECIL Integrated seal pipe connections can be installed without any problems using normal construction site equipment. Cover thoroughly the spigot end with SECIL lubricant. The additional use of lubricant on the seal is recommended as this reduces the mounting forces. Move spigot end centrally into socket and pull pipes together.



DN	profile type	hj	b
150 - 200	SECIL 10	10	46,51
250 - 300	SECIL 12	12	62,80
400 - 600	SECIL 14	14	70,75
700 - 1200	SECIL 18	18	80,90
1300 - 1500	SECIL 22	22	102,25
1600 - 2600	SECIL 26	26	122,26

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