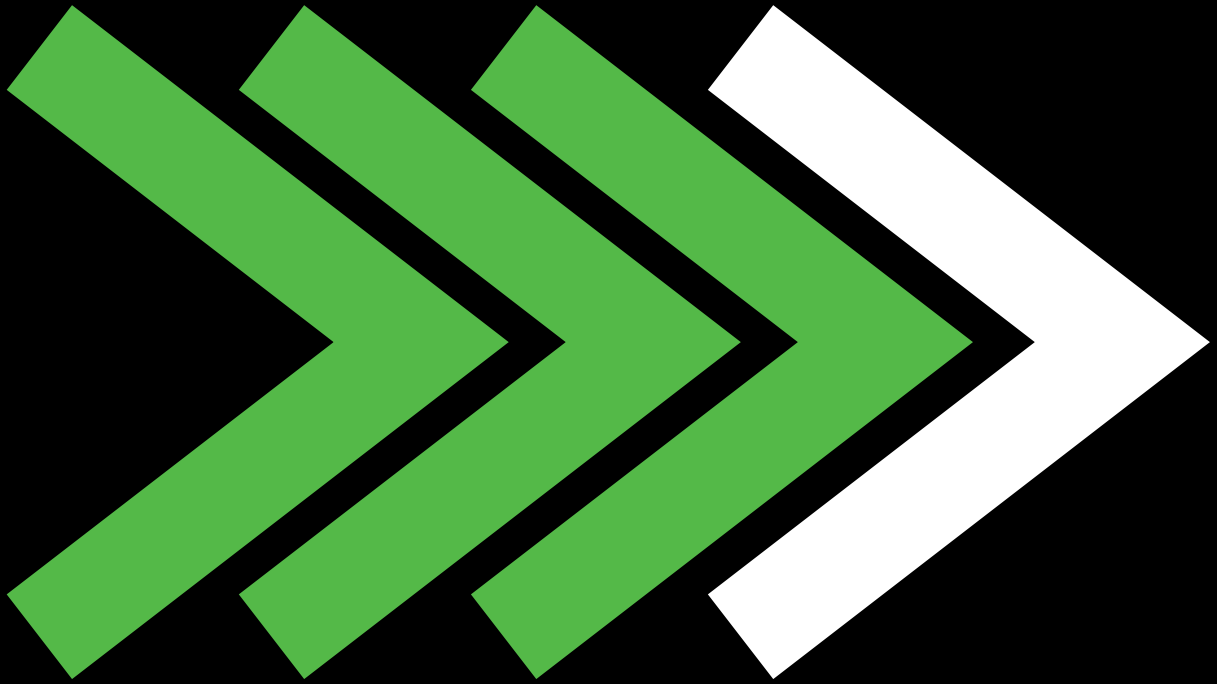


QUALITY
INSIDE
AND OUT



When it comes to long life piping for drinking water, sewage, industrial water or gas, there is one name that continues to lead the way - ECOPUR by vonRoll. Delivering precision-engineered Swiss quality piping and fittings, ECOPUR is designed for applications that demand absolute supply reliability and investment security. ECOPUR is the first choice of smart engineers worldwide. When it has to last, specify vonRoll ECOPUR every time.

vonRoll
ECOPUR



The surface roughness of the polyurethane lining is 10 times lower than cement-lined pipes.

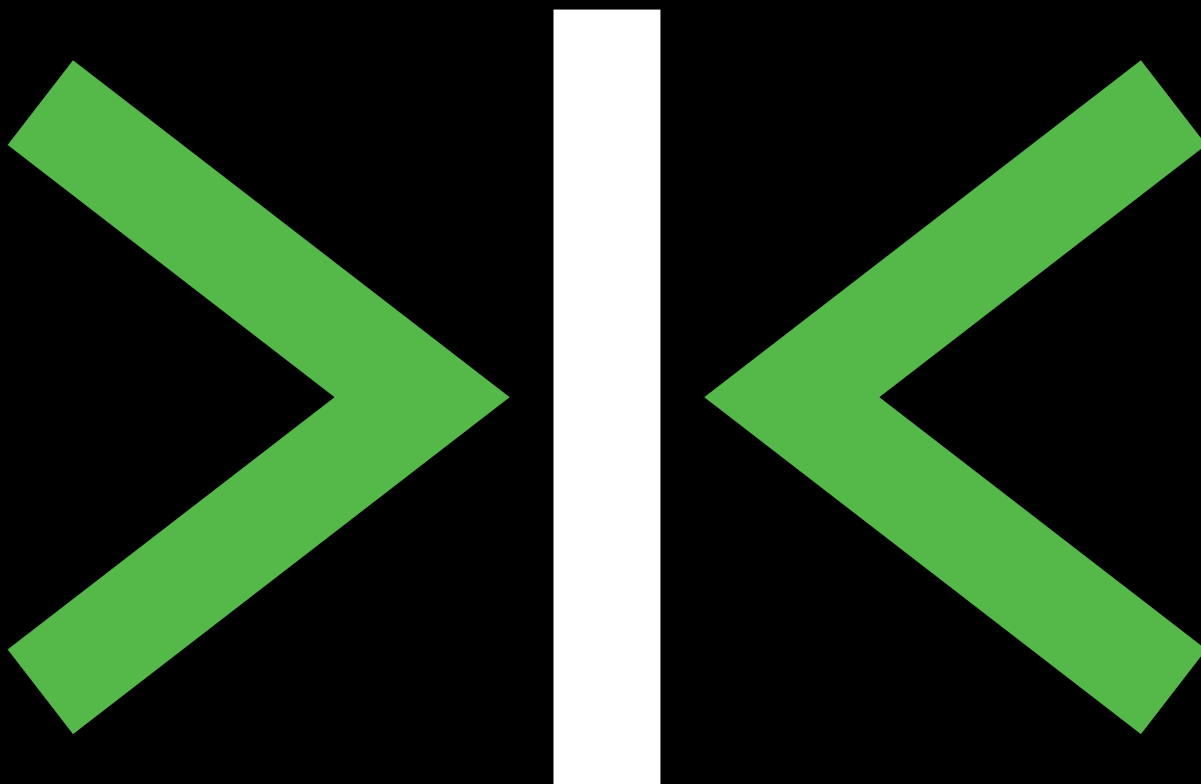
high performance

piping

Designed for use across a range of demanding applications, ECOPUR is ideal for urban environments and fully hygienic for drinking water. What's more, ECOPUR can be installed in any soil type.

- > Best flow performance and efficiency
- > Larger internal diameter and smooth lining result in better flow characteristics
- > Lower energy consumption from pumps than traditional piping systems
- > Smaller pipe diameters reduce material costs
- > High pressure pipes up to PN 100 are also available





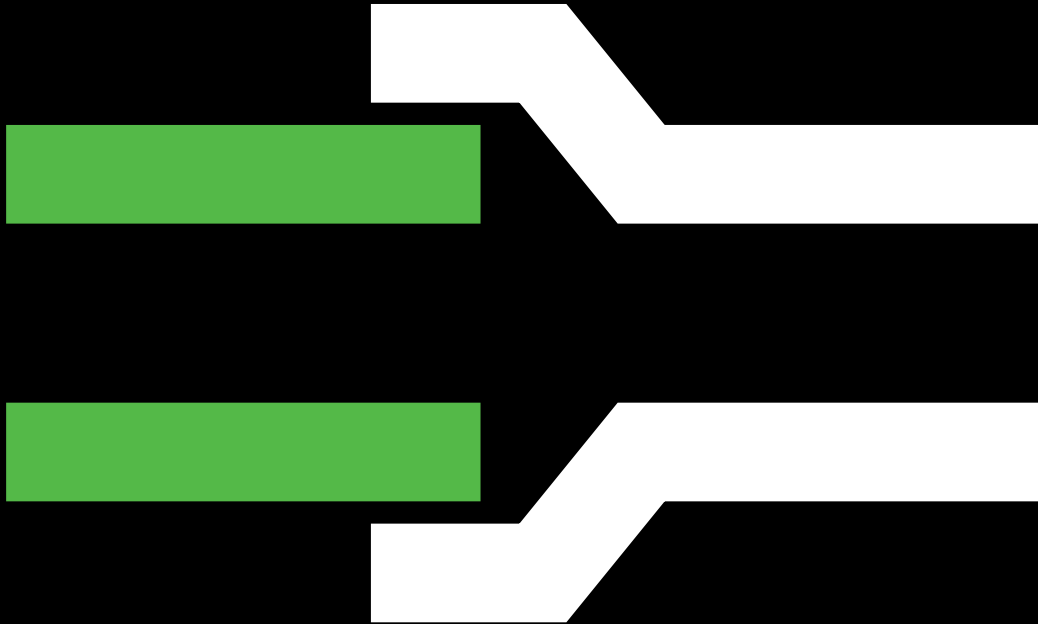
Resistant to all water types and
gases from pH1 up to pH14.

corrosion free design

inside and out

The innovative design of ECOPUR piping sets it apart from anything else on the market. Combining the stability of ductile cast iron with the corrosion resistance of polyurethane (PUR) lining and coating, ECOPUR ensures the perfect balance of performance and reliability.

- > Extremely long operational life
- > Leading-edge compound materials technology
- > Highly stable mechanically but still able to accommodate ground movement
- > Can be installed in soils of any level of aggressiveness
- > PUR lining and coating remains intact even if the pipe deforms
- > Covers all requirement for new sewers (PUR lining and coating)
- > Highest static strength characteristics due to diametral stiffness
- > Suited to high-pressure flushing
- > PUR lining and coating protects from mechanical and chemical damage



Can be cut and drilled without
causing damage to the lining.

the perfect fit

through the right connections

With a wide range of fittings, the system ECOSYS (ECOPUR pipes and ECOFIT fittings) offers the flexibility to integrate with a range of existing piping systems while reducing installation times. Options include push-in socket and flanged.

- > Flexible push-in joints absorb movements under ground
- > Optimum resistance to root penetration
- > Compatible with either ductile iron fittings or vonRoll fittings
- > Internal and external restrained joints are also available for pipes and fittings
- > Fittings can be custom fabricated





Can be installed in any soil type so
excavated materials may be re-used.

faster to install

lightweight

Much lighter than equivalent cement-lined products, ECOPUR is easier to handle, so smaller machines can be used at the installation site. This means faster, simpler installation and greater cost savings.

- > Internal & external thrust-resisting rings remove the requirement for anchoring
- > Easy to cut to length and bore on site
- > Simple and rapid assembly including branch connections
- > Suitable for trenchless installation
- > Installation independent of weather conditions, temperature and energy sources
- > No external sleeving required





A service life up to 100 years longer
than standard ductile iron pipes.

peace of mind

longest service life

With over 200 years of experience, vonRoll is a global leader in the development of advanced piping technologies. Available exclusively through Reece Civil in Australia, you now have access to the world's best piping system and the world class support that Reece are renowned for.

- > ECOPUR delivers absolute security of investment
- > Dramatically reduces ongoing maintenance costs
- > The piping has an expected service life of up to 150 years
- > ECOPUR is available at Reece Civil branches nationally

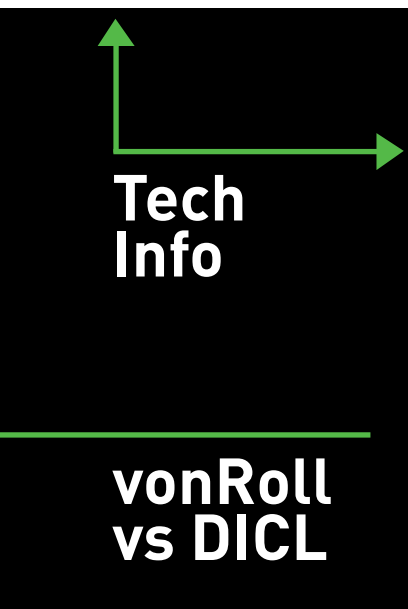


Product Code	Size (DN) mm	Length mm	OD mm	DI Thickness Nominal mm	Internal PUR Thickness mm	External PUR Thickness mm	Inside Diameter Nominal mm	Socket End Diameter mm	Socket Length (mm)	Weight kg/m
1014050	80	6000	98	6	1.3	0.9	81.6	167	119	14.6
1014051	100	6000	118	6	1.3	0.9	101.6	188	120	17.6
1014052	125	6000	144	6	1.3	0.9	127.6	215	123	21.7
1014053	150	6000	170	6	1.3	0.9	153.6	242	126	25.9
1014054	200	6000	222	6.3	1.5	0.9	204.6	295	131	34.3
1014055	250	6000	274	6.8	1.5	0.9	255.6	352	131	47.4
1014056	300	6000	326	7.2	1.5	0.9	306.8	410	130	60.5
1014057	350	6000	378	7.7	1.5	0.9	357.8	464	135	73.4
1014058	400	6000	429	8.1	1.5	0.9	408	517	145	87.9
1014059	500	6000	532	9	1.5	0.9	509.2	630	145	120.7
1014060	600	6000	635	9.9	1.5	0.9	610.4	750	120	158.4
1014061	700	6000	738	10.8	1.5	0.9	711.6	863	150	201.5

Attribute	Ductile Iron Cement Lined Pipe	vonRoll ECOPUR Pipe
Nominal Size (DN)	100mm - 750mm	80mm - 700mm
Pipe Length	5.5 - 5.75m	6m
Pipe Weight	Standard	Up to 16% less
External Coating	Bitumen	Polyurethane
Internal Lining	Cement Mortar	Polyurethane
Internal Lining Wall Thickness	3.5 - 6mm	1.3 - 1.5mm
Internal Texture	Rough	Smooth
Equivalent Surface Roughness	k = 0.1	k < 0.01 mm
Water pH Levels	6 to 11	All (1 to 14)
Sleeving Required Before Installation	Polyethylene	None
Pipe Deformation	Loses Corrosion Protection	Maintains Corrosion Protection
Pressure Rating	PN20 - PN35	PN35
Application	Water / Sewer	Water / Sewer / Gas
Connections	Push-in Socket / Flange	Push-in Socket / Flange
Temperature	50°C	50°C Constant - 80°C Occasional



Maximum Deflection (With restraint clamp)	Maximum Deflection (Without restraint clamp)	Allowable Operating Pressure (bars)
3°	5°	100
3°	5°	100
3°	5°	64
3°	5°	64
3°	5°	50
3°	5°	50
3°	5°	40
3°	4°	40
3°	4°	40
3°	3°	30
3°	3°	30
3°	3°	30



ECOPUR Pipe Technical Information

Ductile Iron Pipe

Property	Pipes
Minimum tensile strength (Rm)	420 MPa
Yield strength	270 MPa
Minimum elongation at break DN 100-700	10%
Minimum transverse compressive strength	550 MPa
Burst pressure rating	300 MPa
Longitudinal flexural strength	420 MPa
Density	7.05 kg/dm³
Elastic modulus	1.7x10⁵ MPa
Thermal expansion coefficient	10x10⁻⁶ (1/k)
Hardness	<230 HB

Polyurethane Coating and Lining

Property	Pipes
PUR internal lining DN 80 - 150	1.3 mm
PUR internal lining DN 200 - 700	1.5 mm
PUR external coating DN 80 - 700	0.9 mm
PUR internal lining	green
PUR external coating	black
Density	1.4 - 1.5 kg/dm³
Adhesive strength	>14 MPa
Max temperature (water - continuous)	40°C
Max temperature (water - sporadic)	80°C
Temperature (air)	120°C
Impact resistance	40 Nm at 20°C
Salt spray effect	No effect after 1000 hours
Elongation	>10%
Equivalent surface roughness	k < 0.01mm
Chemical strength	Acid or base with pH of 1 to 14
Thermal expansion	20x10⁻⁶ (1/k)
Chlorinated drinking water	No effect

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