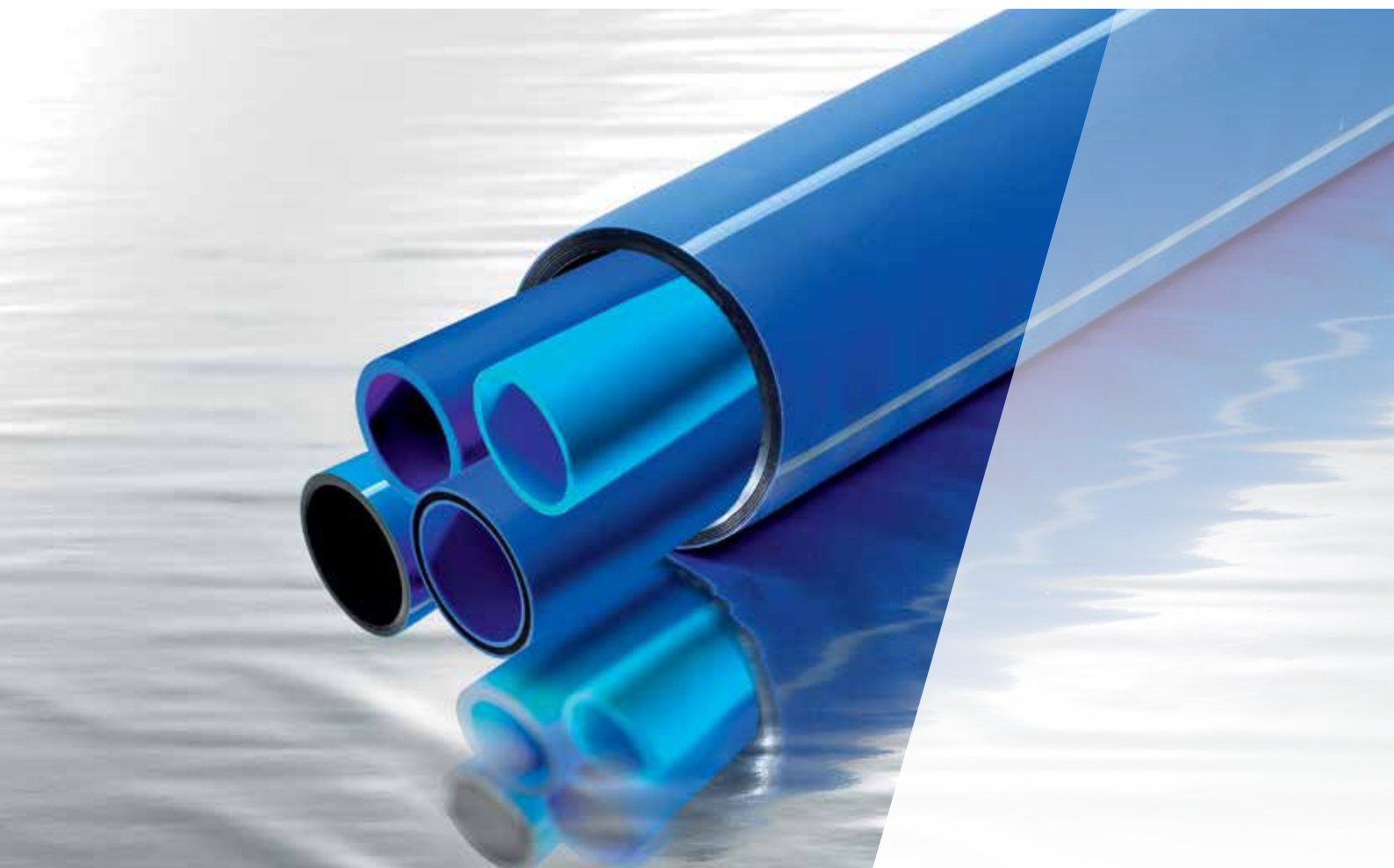


PE SafeTech – the safe choice



The market's strongest pressure pipe system for transportation of potable water

PE SafeTech is shorthand for “safe technology in a safe material”. PE SafeTech is made from a special material, called PE100-RC. RC stands for “resistance to crack”. This class of material makes the pipe system extremely resilient to surface damage and point loads.

Easy to handle and fit:

- For fast and effective fitting, high material strength means that excavated material can be packed around new pipes.
- The protective PP mantle ensures that PE SafeTech is suitable for all pipe-laying techniques, including some of the more modern ones, such as burst lining, directional drilling and chain trenching.

We stock a comprehensive range of PE SafeTech pipes and bends. While we provide a guarantee that every single metre of pipe we deliver is high quality, strong and safe, this premium product also helps reduce overall costs.



Making your choice easy

By always choosing the best, it can only get better. That is the philosophy behind PE SafeTech, which replaces no less than four popular pressure pipes for drinking water. We have thus combined all our experiences and knowledge from the PE80, PE100, PEplus and TS pipes in one single pressure pipe for drinking water: PE SafeTech.

PE SafeTech is a complete pipe system building further on Wavin's well-known pressure pipes. Thanks to its strength and durability, the pressure pipe is extremely resistant to surface damage and point loads. In addition to being a cost-effective solution, the system is easy to handle and install.

With PE SafeTech, Wavin has created the pressure pipe of tomorrow. It uniquely combines the requirements for safe product quality and hi-tech knowledge. The result is reflected in the name, PE SafeTech – safe technology in a safe material, PE.

Comprehensive product portfolio

PE SafeTech spearheads Wavin's overall pipe portfolio which ensures that people always have access to clean drinking water in an eco-friendly manner. We offer customised solutions within pipes, fittings and wells that match each other.

Provider of total solutions for you

Reliability is the keyword. Over the years, Wavin has developed a fine-meshed network of sales and service staff to always offer you competent advice and assistance. Service is of course also an element of the overall quality offered by Wavin.

Wavin creates knowledge

No product is introduced without having been subjected to comprehensive testing and analyses or without technical documentation. Wavin is renowned for having the most proven product portfolio on the market, further illustrating that our customers are in safe hands.

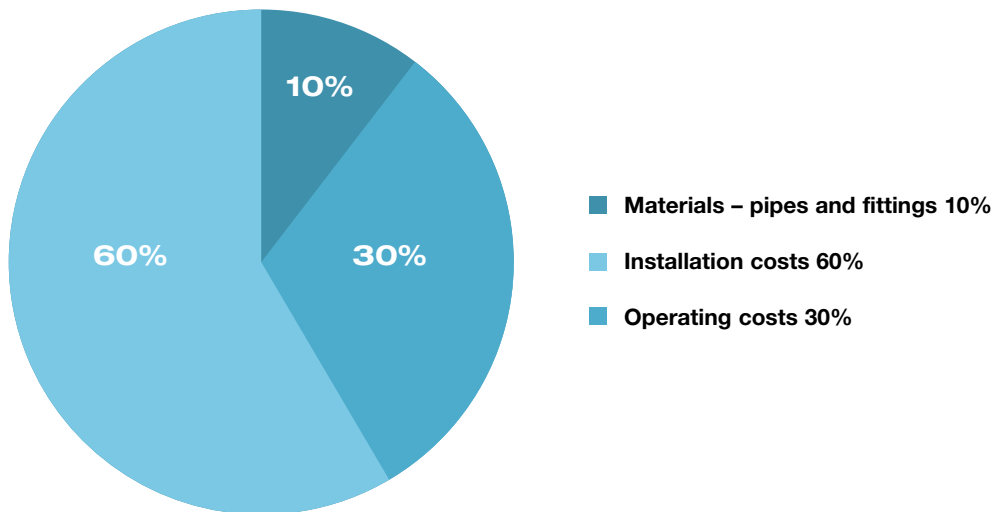


Reduce total costs

PE SafeTech is well-suited for all laying methods. Both new methods such as pipe bursting, horizontal directional drilling or chain trenching, but also traditional laying, where excavated material is reused. These methods entail a risk of notches and/or point loads which will result in destructive cracks and fractures in traditional pipes.

Analyses have shown that PE SafeTech offers high resistance to these types of damage, as the pipe is made from hard wearing PE

material which is much stronger than the known PE100. As pipe and cable owner, it is important to take the total costs into account, both when renovating and establishing new pipes. The majority of the costs is typically attributable to installation and operation (in relation to the materials), thus offering a significant scope for cost reductions. PE SafeTech will reduce the total costs, see the calculation examples on the next page.



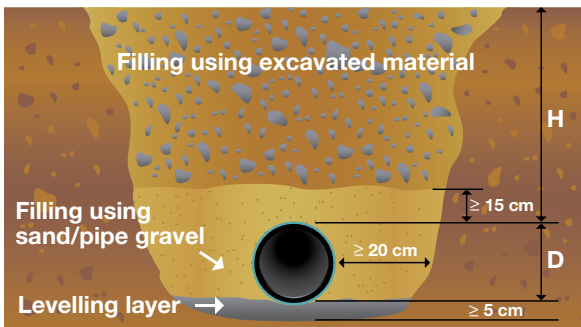
The iceberg illustrates a general distribution of a pipe and cable owner's costs. The top 10% are attributable to materials such as pipes and fittings, the middle 60% to installation and the bottom 30% are typically operating costs. With PE SafeTech, you can reduce the two bottom levels considerably and, literally, cut off lumps of your main costs.

Calculation examples

The below example shows a pipe trench in accordance with the instructions of DS 475 and DS 430 as well as industry guidelines (Branchevejledning nr. 54, 2. udgave) – a PE SafeTech pipe (ø160 mm) is being installed.

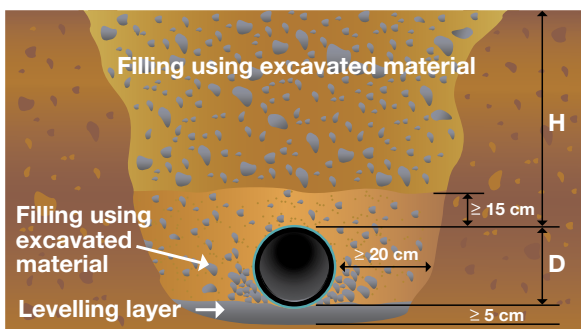
The calculation is subject to price variations. The calculation is based on an average example following consultation with the contract department at one of Wavin’s customers. The prices listed are Danish kroner per metre of pipe trench.

Laying in traditional pipe trench



D = Outside pipe diameter
H = Height above pipe top

PE SafeTech pipe trench with reuse of excavated material



D = Outside pipe diameter
H = Height above pipe top

In addition to the above example, PE SafeTech also offers a cost reduction potential in connection with, e.g., chain trenching where the pipe trench cost per metre can be reduced by up to DKK 35 compared to chain trenching using ordinary PE100 pipes.

Time saving

The PP casing on Wavin’s PE SafeTech pipes also reduces the time consumption in connection with joints using electric welding, as the PP casing can be quickly and easily removed as opposed to scraping the surface of a traditional PE100 pipe.

Traditional pipe trench

Filling using clean soil

Removal of clean soil and delivery of pipe gravel: DKK 24.48/m
Documentation for clean soil through soil analysis: [DKK 15.00/m](#)
Total for filling with clean soil = [DKK 39.48/m](#)

Filling with slightly contaminated soil for landfill

Removal of contaminated soil for landfill and delivery of pipe gravel: DKK 33.48/m
Surcharge for landfill tax: [DKK 66.00/m](#)
Total for filling with clean soil = [DKK 99.48/m](#)

PE SafeTech pipe trench

Reuse of excavated soil

Handling of soil for reuse, including covering, sorting and compression = DKK 12.00/m

Cost reductions offered by PE SafeTech

Reuse vs. filling with clean soil: $39.48 - 12.00 =$ [DKK 27.48/m](#)

Reuse vs. filling with slightly contaminated soil: $99.48 - 12.00 =$ [DKK 87.48/m](#)

Installation instructions

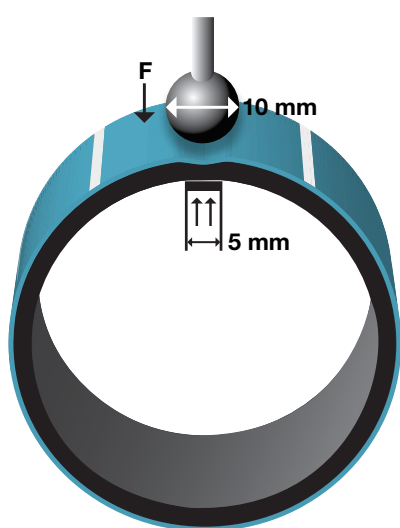
When reusing excavated material for installing pipes, it is important that the pipe is well supported.

A stone size of max 64 mm or half the pipe diameter is thus recommended for the first 50% covering of the pipe. You should also avoid sharp stones from getting into direct contact with the pipe, which also applies to the remaining filling.

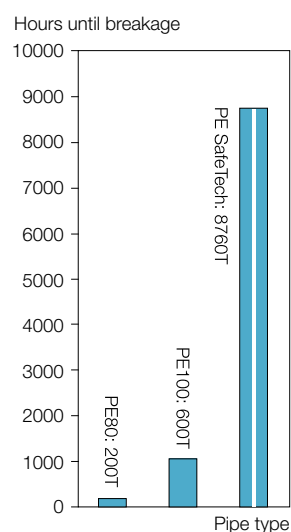
Strength and safety all the way through

The resistance of PE SafeTech to notches, scratches and point loads has been tested separately by independent institutes. The tests show that the PE SafeTech pipe is extremely robust compared to traditional pressure pipes and withstands rough handling when installed in the pipe trench using the new laying methods. See graphs for results.

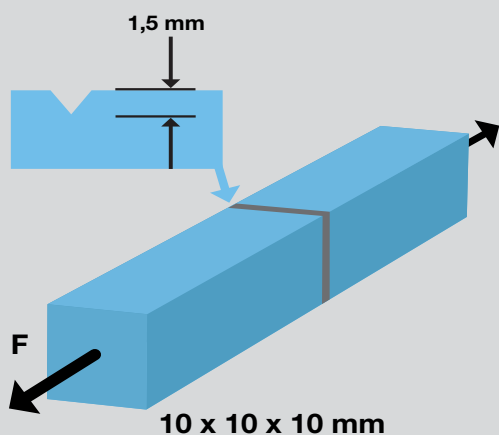
Point load test



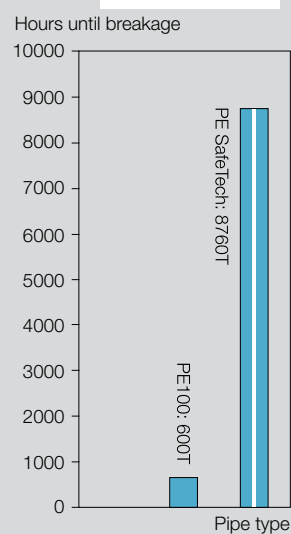
A test pipe is immersed in a tank containing a 2% Arkopal solution heated to 80°C. The test pipe is then subjected to a 10 mm punch load indicating point load. The load is increased until the yield point of the material is exceeded. The pressure is then maintained until pipe breakage occurs.



FNCT test



In the Full Notch Creep Test (FNCT), a notched test specimen cut from the Wavin pipe is subjected to a tensile load of 4N/mm² at a temperature of 80°C in a 2% Arkopal solution. The local stress concentrates are then stimulated.



Technical Specifications

Raw material guarantee

PE SafeTech is made from a newly developed raw material (RC = Resistance to Crack). As the name implies, the material is developed to withstand the extraordinary stresses to which the PE material is exposed, e.g. in the form of point loads or tension in a weakened pipe as a result of notches.

As an additional guarantee, Wavin receives a certificate with each RC delivery, which certifies that the material has been subjected to a FNCT test and left to stand for 3,000 hours, corresponding to 8,800 hours in the point load test. With Wavin PE SafeTech, you are thus guaranteed high quality, strength and reliability in every single metre of pipe.



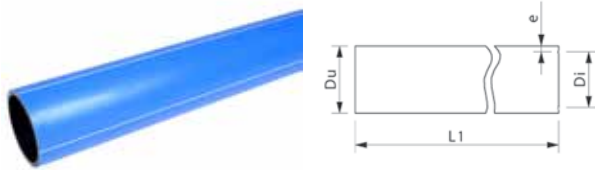
PE SafeTech has been tested and certified according to the Nordic INSTACERT rules and thus carries the Nordic Poly Mark label.

The voluntary scheme ensures that the pipe system meets the new EN norms and a number of additional requirements aimed at maintaining the Nordic quality level known up to now.

Product Range

Blue PE SafeTech Pressurepipe

PE 100 RC material with/ PP layer



Dy	Wavin nr.	Di	e	L1	Weight
PE 100 - Pressure PN 6,3 - SDR 26					
90	2911248	83,0	3,5	12.000	14,1
110	2911250	101,6	4,2	12.000	20,2
125	2911252	115,4	4,8	12.000	25,3
160	2911256	147,6	6,2	12.000	40,1
200	2911262	184,6	7,7	12.000	61,9
225	2911264	207,8	8,6	12.000	77,2
250	2911266	230,8	9,6	12.000	94,9
315	2911270	290,8	12,1	12.000	148,5
400	2911274	369,4	15,3	12.000	240,5
PE 100 - Pressure PN 10 - SDR 17					
63	2911144	55,4	3,8	12.000	10,4
75	2911146	66,0	4,5	12.000	14,3
90	2911148	79,2	5,4	12.000	19,8
110	2911150	96,8	6,6	12.000	29,0
125	2911152	110,2	7,4	12.000	36,6
160	2911156	141,0	9,5	12.000	58,7
200	2911162	176,2	11,9	12.000	90,4
225	2911164	198,2	13,4	12.000	114,2
250	2911166	220,4	14,8	12.000	139,3
315	2911170	277,6	18,7	12.000	219,2
400	2911174	352,6	23,7	12.000	358,0
PE 100 - Pressure PN 16 - SDR 11					
63	2911344	51,4	5,8	12.000	14,4
75	2911346	61,4	6,8	12.000	19,7
90	2911348	73,6	8,2	12.000	28,0
110	2911350	90,0	10,0	12.000	40,9
125	2911352	96,8	11,4	12.000	52,6
160	2911356	130,8	14,6	12.000	84,9
200	2911362	163,6	18,2	12.000	131,1
225	2911364	184,0	20,5	12.000	165,2
250	2911366	204,6	22,7	12.000	202,6
315	2911370	257,8	28,6	12.000	319,1
400	2911374	327,4	36,3	12.000	523,9

Sub-surface superiority

Wavin's products are an invisible force. Concealed in walls, under floors, roads, parking lots and agricultural areas, our products bring state-of-the-art comfort into our everyday lives – a comfort which we take for granted, but which can only be provided through innovative, reliable and safe pipe systems.

Wavin develops and manufactures eco-friendly solutions. We believe that knowledge and development must go hand in hand with environmentally sound decisions. This is reflected in our systems which are both safe and eco-friendly to manufacture, install, use and maintain.

Our pipe systems may be invisible, but Wavin is not. We want to be at the forefront of our customers' wishes and needs – and not just in terms of products and systems. To us, a good product is not just a matter of delivering a product that meets the customer's functional wishes and requirements, but also very much a question of offering the customer the right advice and the right logistics solution.

Represented in 27 European countries with production facilities in most of them, Wavin has access to a comprehensive product portfolio and, not least, considerable knowledge of the application and transport of these products.

A knowledge we encourage our customers to utilise.

Nordisk Wavin A/S

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