

NOVA FLORIDA

MADE IN ITALY



Aleternum®

Extruded Radiators with Anticorrosion Treatment

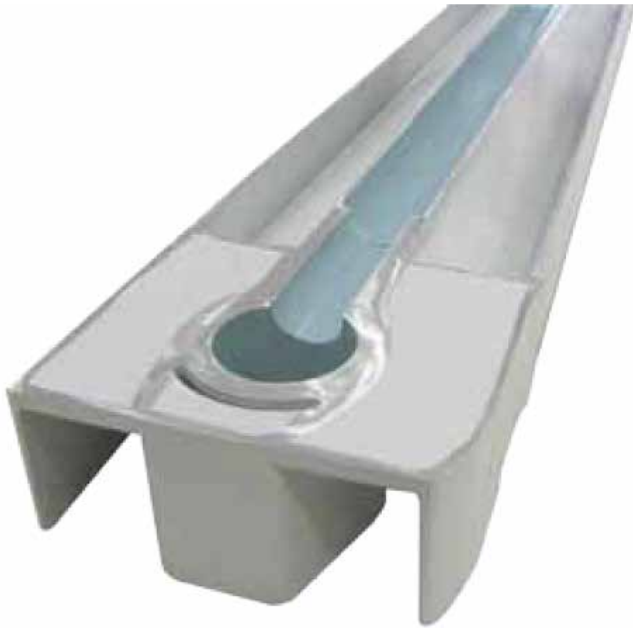
A faint, light-colored background image showing several different models of extruded radiators, including wall-mounted and freestanding units.

Aleternum®

| EN |

Aleternum® : Anticorrosion T

Introduction



Aleternum® inner coating by Fondital

Corrosion is the primary cause of malfunctions in heating systems. Not only does it deteriorate the components of the system, but over the years corrosion significantly reduces efficiency, increasing consumption and, as a result, operating costs.

For example, corrosion in a heating system containing cast iron or steel radiators produces a sludge that accumulates at the bottom of the radiators, obstructing the radiators themselves and the pipes, resulting in a partial or total loss in thermal performance and uneven heat distribution. In conventional aluminium radiators, corrosion produces gas pockets which prevent the radiator from heating evenly and may limit thermal performance.

To stop corrosion even before it starts, Fondital has developed Aleternum®, an exclusive resin-based internal coating to protect the radiator water chamber.

Aleternum® by Fondital brings the heating system into a new era, in which total protection is a guarantee of safety and high efficiency.

Your heating system will always be as good as new!

Treatment for Radiators

What is corrosion?

✓ It is the chemical and physical interaction between a metal and a water-based medium, which causes changes in the properties of the metal and which often leads to a loss in the functionality of the metal itself, of the medium or of the system consisting of these two elements.



Metal + Water + Oxidizing Agent = Corrosion

The different forms of corrosion are defined according to the area of the metal affected by corrosion as follows:

- ✓ **general corrosion (or widespread corrosion):** when the entire surface area of the material is affected by corrosion;
- ✓ **uniform corrosion:** when corrosion affects the entire surface area of the material and causes the same degree of damage all over the surface;
- ✓ **localised corrosion:** corrosion affects only certain areas of the material; the area affected by corrosion may present different morphologies, such as pits, craters, cavities, pinholes, cracks, etc.

plan view		side view	
	Uniform Corrosion – general attack		
	Uniform Corrosion – uniform attack		
	Localised Corrosion		
	Pitting	craters	
		pinholes	
		cavities	
	Stress Corrosion Cracking (SCC)	Simple cracks	
		Branching cracks	
	Erosion corrosion		



Aleternum®

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TREATMENT



Maior Aleternum® Advantages

1] TOTAL ANTICORROSION TREATMENT

2] IDEAL FOR A WIDE RANGE OF PH VALUES

Conventional aluminium radiators require a pH value between 7 and 8.

Our new treatment eliminates this limit, meaning that Aleternum radiators can operate with a wider pH range than non-treated aluminium and steel radiators (attack occurs at pH values below 8).

Aleternum® by **Fondital** can be used in systems with high pH values with total peace of mind.



3] NO FORMATION OF HYDROGEN POCKETS (NO GAS)

4] CHLORIDE-RESISTANT

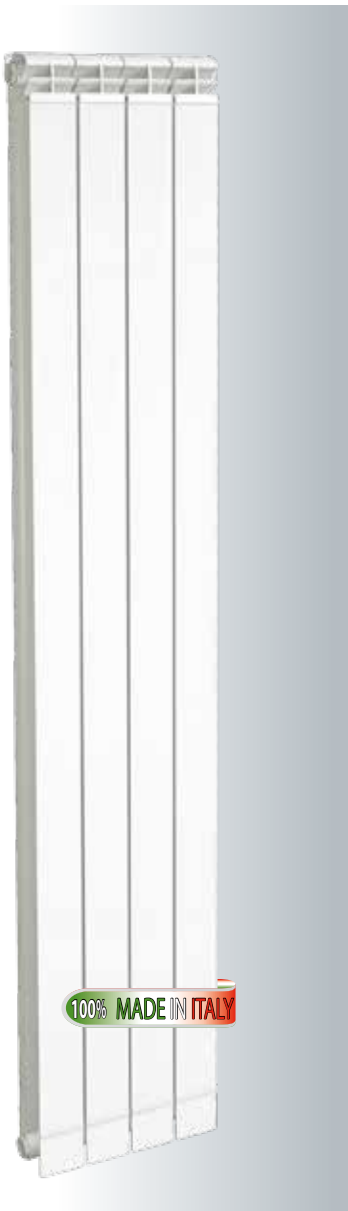
5] PREVENTS OBSTRUCTIONS AND RESULTING COLD SPOTS

6] LIGHT WEIGHT AND EASY TO INSTALL

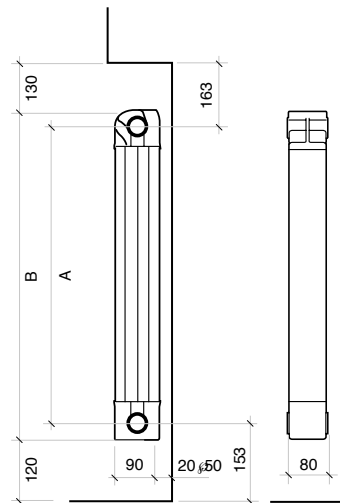
7] CAN BE INSTALLED IN MIXED-METAL HEATING SYSTEMS

8] 20-YEAR WARRANTY

9] PATENT PENDING TECHNOLOGY



Designed for contemporary living spaces, Maior S/90 offers smart and flexible solutions. Vertical design is the key to making the most of limited space. Available in seven models, it will fit perfectly in any home interior.



Technical specifications

Model	Depth	Height	Centre distance	Length	Connection diameters	Water capacity	Weight	Heat output ΔT 50K	Exponent	Coefficient
	mm	(B) mm	(A) mm	mm	inches	litres/sect.	Kg/sect.	W/sect.	n	K_m
900	90	966	900	80	G1	0.43	1.96	182	1.3605	0.8886
1000	90	1066	1000	80	G1	0.47	2.20	195	1.3630	0.9426
1200	90	1266	1200	80	G1	0.55	2.50	223	1.3610	1.0864
1400	90	1466	1400	80	G1	0.62	2.80	250	1.3600	1.2227
1600	90	1666	1600	80	G1	0.70	3.00	275	1.3843	1.2260
1800	90	1866	1800	80	G1	0.78	3.40	300	1.3570	1.4846
2000	90	2066	2000	80	G1	0.86	3.80	324	1.3905	1.4083

Maximum working pressure: 1600 kPa (16 bar).

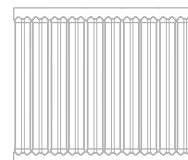
Characteristic equation of model $\Phi = K_m \Delta T^n$.

The thermal efficiency values shown comply with the European Standard EN 442-1:2014 and are certified by the MRT Lab of the Milan Polytechnic, notified body no. 1695.

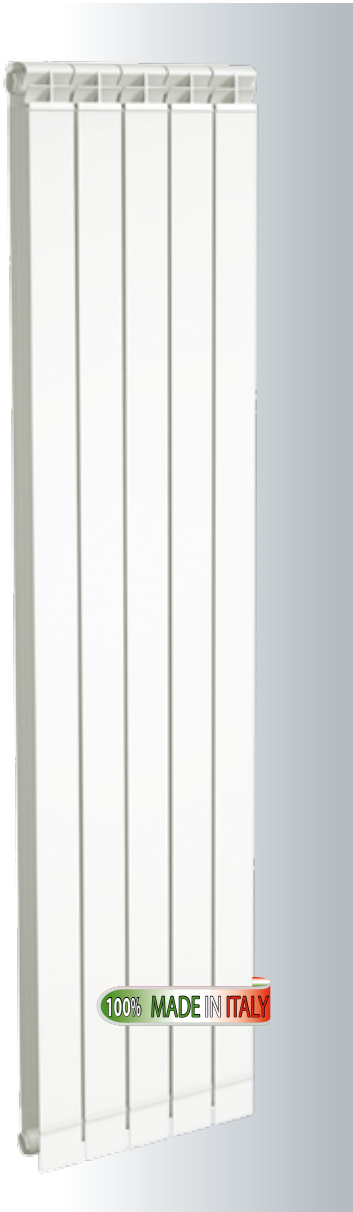
COLOUR: RAL 9010 White.

STANDARD SUPPLY: Blocks of 3, 4, 5, 6 sections. The water diaphragm is included.

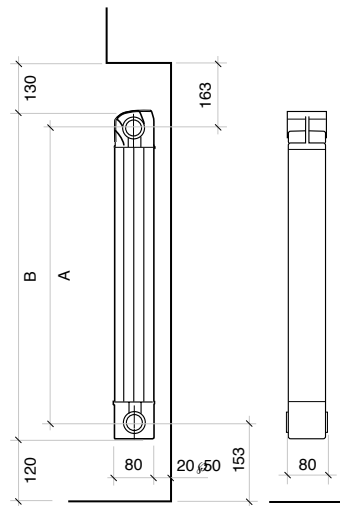
Maior S/90: extruded aluminium radiator



Aleternum®
TREATMENT



High heat output, maximum comfort and stylish design are the key characteristics of the Maior Dual 80 series, that will fit well with any interior. Available up to two metres in height, the products in this range can be combined with stylish valves and they are available in different models to add an exclusive touch to any room.



Technical specifications

Model	Depth	Height	Centre distance	Length	Connection diameters	Water capacity	Weight	Heat output ΔT 50K	Exponent	Coefficient
	mm	(B) mm	(A) mm	mm	inches	litres/sect.	Kg/sect.	W/sect.	n	K_m
900	80	966	900	80	G1	0.47	1.88	175	1.3695	0.8217
1000	80	1066	1000	80	G1	0.52	2.00	189	1.3908	0.8198
1200	80	1266	1200	80	G1	0.60	2.32	215	1.3889	0.9391
1400	80	1466	1400	80	G1	0.70	2.61	241	1.3875	1.0585
1600	80	1666	1600	80	G1	0.79	2.91	266	1.3980	1.1213
1800	80	1866	1800	80	G1	0.88	3.22	288	1.3832	1.2864
2000	80	2066	2000	80	G1	0.96	3.56	310	1.3902	1.3473

Maximum working pressure: 1600 kPa (16 bar).

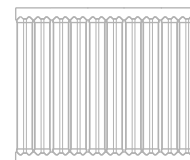
Characteristic equation of model $\Phi = K_m \Delta T^n$.

The thermal efficiency values shown comply with the European Standard EN 442-1:2014 and are certified by the MRT Lab of the Milan Polytechnic, notified body no. 1695.

COLOUR: RAL 9010 White.

STANDARD SUPPLY: Blocks of 3, 4, 5, 6 sections. The water diaphragm is included.

Maior DUAL 80: extruded aluminium radiator



Accessories

To complement its radiators, Fondital offers a complete range of accessories to meet any installation needs. Valves and lockshield valves are available in different design styles and finishes and will fit any type of pipes with 1/2" connection diameter, with straight or angle body pattern.

Valves and lockshield valves for extruded radiators

ALFA series valve
1/2" connection



Types	Colour White/Chrome	Colour Chrome	Colour Gold
Description	Part no.	Part no.	Part no.
Angle valve, iron pipe connection	3051	3052	3053
Straight valve, iron pipe connection	3061	3062	3063
Angle lockshield valve, iron pipe connection	3031	3032	3033
Straight lockshield valve, iron pipe connection	3041	3042	3043
Angle valve, copper/PE/multilayer pipe connection	3151	3152	3153
Straight valve, copper/PE/multilayer pipe connection	3161	3162	3163
Angle lockshield valve, copper/PE/multilayer pipe connection	3131	3132	3133
Straight lockshield valve, copper/PE/multilayer pipe connection	3141	3142	3143

Valves are supplied without fittings

BETA series valve
1/2" connection



Types	Colour White/Chrome	Colour Chrome
Description	Part no.	Part no.
Angle valve, iron pipe connection	3351	3352
Straight valve, iron pipe connection	3361	3362
Angle lockshield valve, iron pipe connection	3531	3532
Straight lockshield valve, iron pipe connection	3541	3542
Angle valve, copper/PE/multilayer pipe connection	3451	3452
Straight valve, copper/PE/multilayer pipe connection	3461	3462
Angle lockshield valve, copper/PE/multilayer pipe connection	3631	3632
Straight lockshield valve, copper/PE/multilayer pipe connection	3641	3642

Valves are supplied without fittings

GAMMA series valve
1/2" connection



Types	Colour White/Chrome	Colour Chrome
Description	Part no.	Part no.
Angle valve, iron pipe connection	4351	4352
Straight valve, iron pipe connection	4361	4362
Angle lockshield valve, iron pipe connection	4531	4532
Straight lockshield valve, iron pipe connection	4541	4542
Angle valve, copper/PE/multilayer pipe connection	4451	4452
Straight valve, copper/PE/multilayer pipe connection	4461	4462
Angle lockshield valve, copper/PE/multilayer pipe connection	4631	4632
Straight lockshield valve, copper/PE/multilayer pipe connection	4641	4642

Valves are supplied without fittings

Fittings for copper pipes for ALFA and BETA valves

Pipe size (Ø mm)	Colour Chrome	Colour Gold
	Part no.	Part no.
10	3812	3813
12	3812	3813
14	3812	3813
15	3812	3813



Fittings for polyethylene pipes for ALFA and BETA valves

Pipe size (Int. Ø - Ext. Ø)	Colour Chrome	Colour Gold
	Part no.	Part no.
12-16	3822	3823
13-18	3822	3823
14-18	3822	3823



Fittings for multilayer pipes for ALFA and BETA valves

Pipe size (Int. Ø - Ext. Ø)	Colour Chrome	Colour Gold
	Part no.	Part no.
10-14	3832	3833
12-16	3832	3833



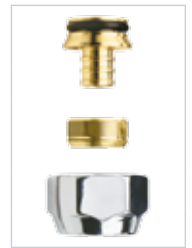
Fittings for copper pipes for GAMMA valves

Pipe size (Ø mm)	Colour Chrome
	Part no.
10	4812
12	4812
14	4812
15	4812
16	4812



Fittings for polyethylene pipes for GAMMA valves

Pipe size (Int. Ø - Ext. Ø)	Colour Chrome
	Part no.
12-16	4822
13-18	4822
14-18	4822



Fittings for multilayer pipes for GAMMA valves

Pipe size (Int. Ø - Ext. Ø)	Colour Chrome
	Part no.
10-14	4832
12-16	4832



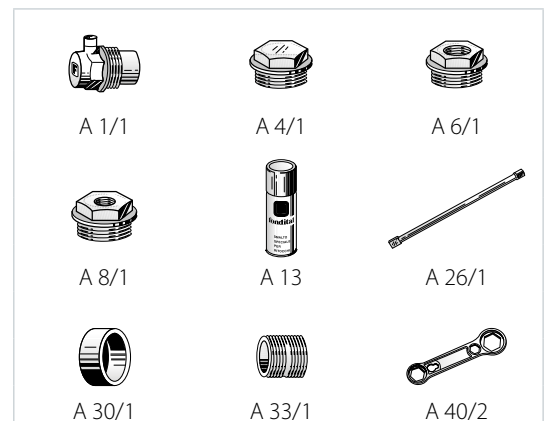
Radiator thermostat for BETA and GAMMA valves

Type	Colour White/Chrome
	Part no.
With liquid sensor	8480931



Accessories for all radiator models (continues on page 12)

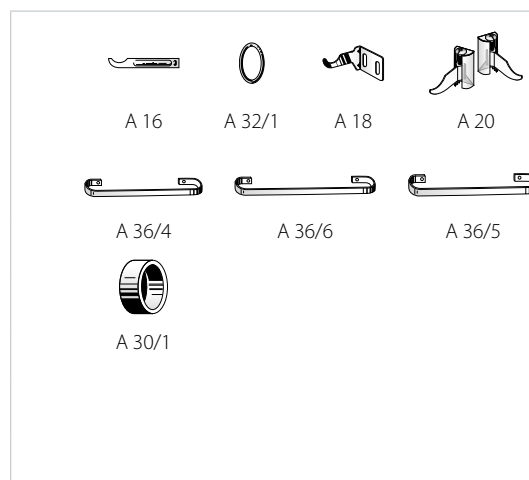
A 1/1	Automatic air bleeding valve, chrome finish, G1", RH or LH
A 4/1	Blanking plug, G1", RH or LH
A 6/1	Adapter, RH or LH, G1" to G 3/8" - G 1/2" - G 3/4"
A 8/1	Valve hole plug, RH or LH, G1" to G 1/4" - G 1/8"
A 13	White touch-up spray paint
A 26/1	Nipple wrench
A 30/1	Rubber plug (water diaphragm)
A 33/1	Special 1" nipple for extruded radiators
A 40/2	Plastic wrench for plugs and adapters



Model-specific accessories

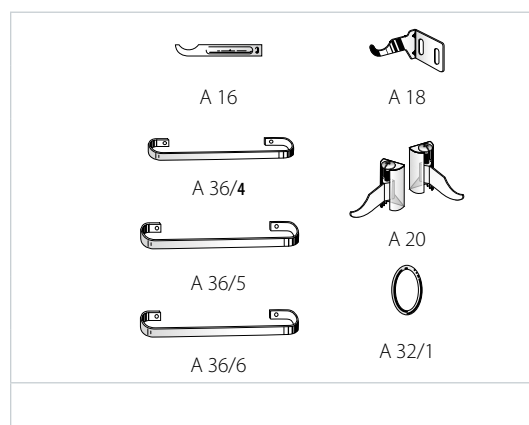
Maior S/90

A 16	Bracket to wall
A 18	Bracket to screw on to the wall Rh
A 18	Bracket to screw on to the wall Lh
A 20	Installation kit with two adjustable, coated brackets
A 30/1	Retainer rubber cap (water diaphragm)
A 32/1	O-ring gasket for nipples, plugs and adapters for Maior radiators
A 36/4	Towel rack for Maior S/90 radiators, 4 sections, white 9010
A 36/5	Towel rack for Maior S/90 radiators, 5 sections, white 9010
A 36/6	Towel rack for Maior S/90 radiators, 6 sections, white 9010



Maior Dual 80

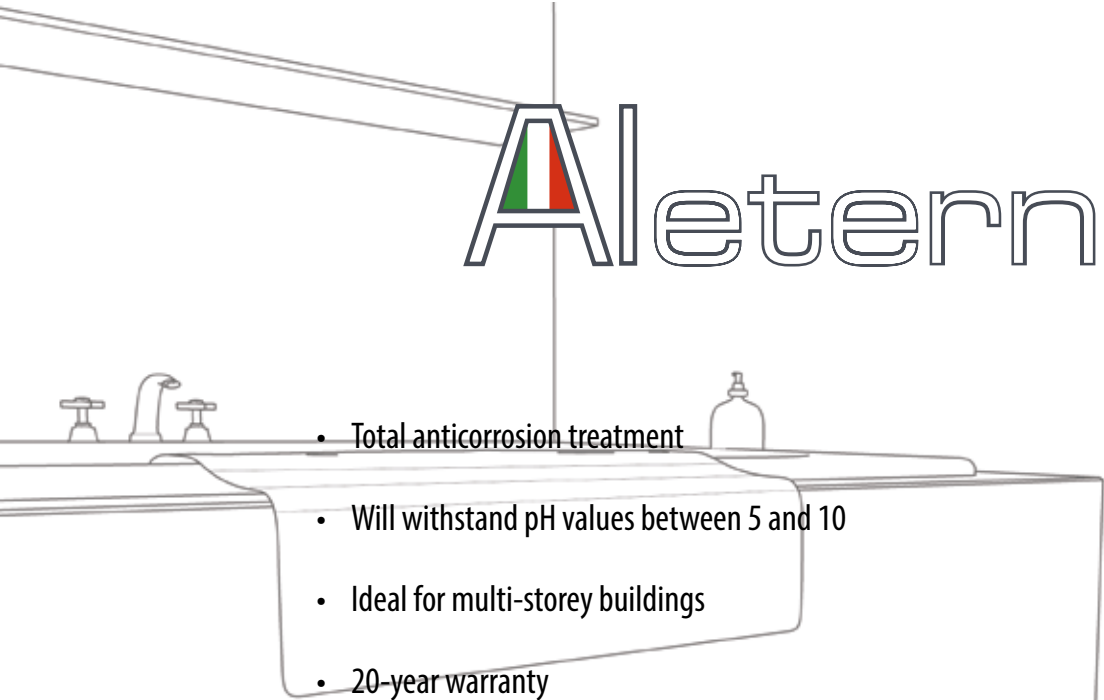
A 16	Bracket to wall
A 18	Bracket to screw on to the wall Rh
A 18	Bracket to screw on to the wall Lh
A 20	Installation kit with two adjustable, coated brackets
A 32/1	O-ring gasket for nipples, plugs and adapters for Maior radiators
A 36/4	Towel rack for Garda Dual 80 radiators, 4 sections, white 9010
A 36/5	Towel rack for Garda Dual 80 radiators, 5 sections, white 9010
A 36/6	Towel rack for Garda Dual 80 radiators, 6 sections, white 9010



- Climate comfort
- Saving on heating costs
- Low installation costs
- Space saving thanks to the possibility of under-window installation
- Ideal for combination with condensing boilers and alternative energy sources
- Just the right temperature in every single room
- Simple and highly - efficient system
- Quick in reaching and maintaining the ideal temperature

A line drawing of a vertical radiator with horizontal fins, positioned on the right side of the page.

Aieternum[®]

- 
- A line drawing of a bathroom sink with a faucet and two handles, positioned on the left side of the page.
- Total anticorrosion treatment
 - Will withstand pH values between 5 and 10
 - Ideal for multi-storey buildings
 - 20-year warranty

FAQ (Frequently asked questions) Aleternum

1	<p>What was the purpose of developing the Aleternum treatment? What specific needs does it address?</p>	<p>Aleternum has been developed to answer the needs of an constantly evolving market. It is the only patented treatment that eliminates the risk of corrosion and enhances the advantages offered by aluminium radiators.</p>
2	<p>Do Aleternum-treated radiators look like previous non-treated radiators?</p>	<p>From a visual standpoint, radiators with this internal coating look exactly as conventional Fondital aluminium radiators. This means Aleternum radiators retain the advantages that traditionally make us stand apart from our competitors, such as anaphoresis and powder coating, two processes that have become a feature of Fondital is products and that make them unique in the industry for their level of excellence and quality in terms of technology and aesthetics.</p>
3	<p>How do you tell a non-treated radiator from an Aleternum radiator?</p>	<p>The difference lies inside the radiator. The water chamber is totally coated with a special resin that prevents the metal from getting in contact with the corrosive substances contained in the circulating water, avoiding the onset of corrosion.</p>
4	<p>What is the Aleternum treatment composed of?</p>	<p>The coating is made of a resin that has been specifically developed and tested for the purpose.</p>
5	<p>Do Aleternum radiators offer higher heat output than competitor products or previous models?</p>	<p>Aleternum offers a higher price-to-heat output ratio than steel and bimetallic radiators manufactured by our competitors. Aleternum radiators provide the same heat output as equivalent non-treated Fondital models, and therefore offer the same superior performance compared to competitor products.</p>
6	<p>What academic institutions have tested the patented Aleternum treatment?</p>	<p>The Aleternum treatment is the result of a long collaboration with some of the most reputed European research institutes. The in-house R&D department has been working on this application for years and it has finally developed this innovative patented coating: Aleternum.</p>
7	<p>Why is Aleternum described as ideal for multi-storey buildings?</p>	<p>All Aleternum models can withstand very high pressures, up to 60 bar, and can operate faultlessly in multi-storey buildings. The Aleternum radiators retain the heat output and aesthetic characteristics of non-treated aluminium radiators. As a matter of fact, these appliances are the top of the range from a technical standpoint and, thanks to their high pressure resistance, they can be installed in buildings even over 100-storey tall.</p>
8	<p>Why are they ideal for mixed-metal CH systems? Does this mean previous radiators were not ideal for such applications?</p>	<p>Aleternum radiators are protected from contact with possible residues produced by the corrosion of other metals in the heating system and they can be installed in systems where different radiators, such as steel or cast-iron, radiators were installed.</p> <p>Radiators without the Aleternum treatment are exposed to the risk of corrosion if installed in such systems.</p>
10	<p>Does this mean Aleternum radiators can only be installed in highly corrosive environments?</p>	<p>Aleternum was initially developed to meet the needs of those areas where water has very high pH values. However, these radiators are now offered as versatile top of the range products, which are ideal for any installation.</p>

11	Is Aleternum suitable for water with pH higher than 10?	While pH levels will never exceed 10 in a residential heating system, Aleternum can still guarantee protection up to a pH of 11.
12	What is the advantage of having the best price-to-heat output ratio?	This means that the heat output needed to warm up a given room can be achieved at a lower overall price. Cost evaluation is based upon required heating performance instead of size, since different radiators, although having almost the same size, can have significantly different heat outputs.
13	How does Aleternum prevent cold spot formation?	Aleternum protects from corrosion. Without corrosion, no gases develop inside the system to impair the heat transfer between hot water and the radiator. Radiators heat up evenly at all times.
14	Does this mean that conventional extruded radiators cannot withstand particularly corrosive water?	Water quality has a strong impact on radiator service life.
15	Can you provide more details about the fact that Aleternum aluminium radiators are more environmentally compatible than competitor products?	Like all aluminium radiators, Aleternum can be defined as an ecological heating system for several different reasons: 1. Aluminium is 100% recyclable 2. The processes involved in the manufacture of aluminium radiators require less energy than the manufacturing processes used by our competitors to produce bimetallic or steel radiators. 3. Low weight implies lower transport and handling costs, resulting in less fuel consumption and less carbon oxide emissions released into the atmosphere
16	Is the water chamber the same as before?	The water chamber has the same shape as previous models and the inner corrosion-proof resin coating does not affect the size of the water chamber nor the flow of water through the radiator.
17	Are heat output rates the same as before?	Aleternum maintains our high heat output rates; the internal protection does not affect heat performance in any way.
18	What is the warranty coverage like?	Aleternum is covered by a 20-year guarantee, as proof of the fact that Aleternum is the only radiator that can last forever.
19	Can you explain how Aleternum radiators are manufactured?	These radiators appliances undergo a special treatment between the first and the second coating stage. The process is a patent pending technology.

The manufacturer reserves the right to carry out the necessary changes without prior notice.



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COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV GL
= ISO 9001 =

