

Fonte – for reduced solvent emissions

The water-based Fonte range of products has been developed by Tikkurila Coatings for the high quality protective coating of industrial products, such as machinery, equipment and steel structures. The products have been developed in close cooperation with both raw material suppliers and end users. They provide at least equivalent levels of anticorrosive protection and surface finish while significantly reducing solvent emissions.

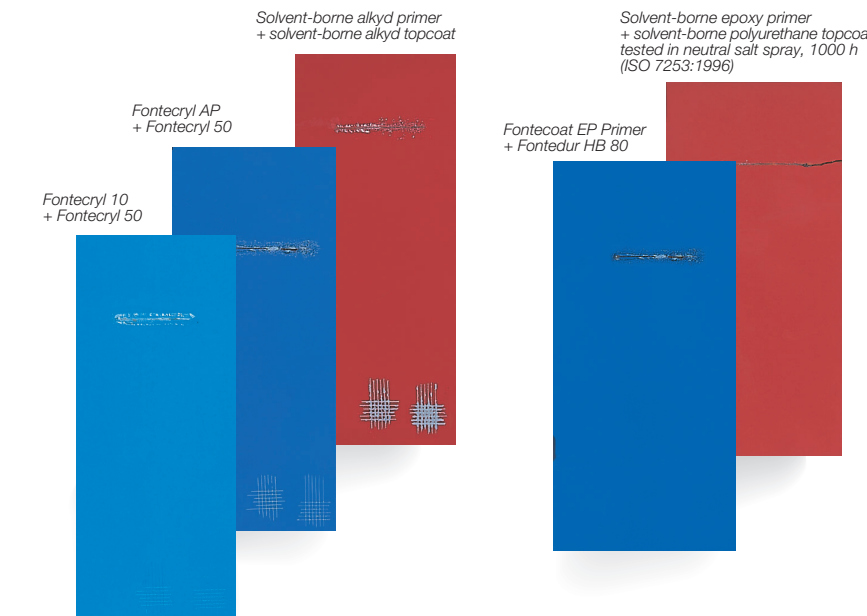
Water-based products are beneficial to the user and the environment. Their technical properties and performance compare favourably with those of solvent-based paints. They fully comply with exacting industrial quality standards and the latest environmental regulations.

Environmental advantages

The amount of VOC's contained in Fonte water-based products is minimal compared to that in similar solvent-based materials. Working with water-based products causes less harmful fumes and odours and less environmental problems. The handling of residue is easier and more economical as water-based products are not usually classified as problem waste.

Safer working

The quantity of emitted solvents in the paint shop during application and curing is significantly reduced when water-based products are used. Fonte products in general mean less risk to the user, and cause less irritation and other harmful effects to health. In addition, the substitution of solvent-based products with water-based ones results in fewer inherent risks of fire or explosion. Any electrical appliances used in the paint shop may not require expensive special modifications. Welding, gas cutting and other jobs requiring use of heat or an open flame can also be more easily carried out in the shop.



Accelerated corrosion testing demonstrates that the protective properties of water-based paint systems are at least equal to those of similar solvent-based systems. The test method was a cyclic salt spray (prohesion) 1000 h (ASTM G85-94A5).

Protective properties

Appropriately specified water-based paint systems perform excellently in the most demanding environments. The durability and effectiveness of water-based anticorrosive paint systems has been proven in both accelerated laboratory testing and in normal industrial use.

the natural choice

Chemical resistance

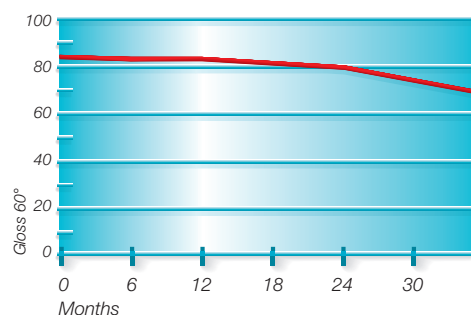
Water-based systems are, after full cure, equally resistant to the chemical attack as comparable solvent-based alkyds, acrylics, polyurethanes, and epoxies.

Recommended uses

Water-based Fonte paints can be used to replace solvent-based materials for the great majority of typical industrial applications. Most Fonte products can also be applied directly onto previously coated surfaces during maintenance painting. The only exception is where surfaces are to be immersed.

Exterior durability and cosmetic appearance

Water-based Fonte topcoats for exterior use have excellent gloss and colour retention. They withstand natural weathering, temperature changes and UV radiation as well as comparable solvent-based products.



Natural weathering tests are used to establish the weather resistance of coatings. The above graph indicates the change of gloss of water-based Fontedur 90 polyurethane paint during a 3 year test period. Weathering resistance was shown to be excellent.

Water-based Fontecryl EP 80 -epoxy paint protects the wind turbine gears manufactured by Moventas Wind Oy, Finland.

Methods of application

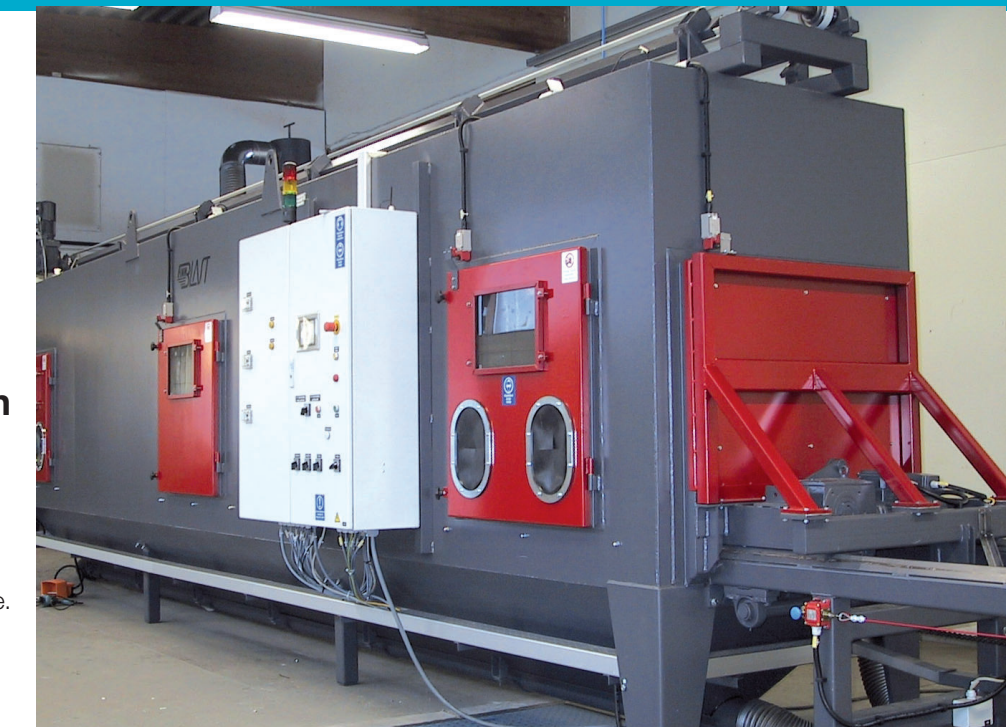
Fonte water-based products can be applied using the same methods as for solvent-based materials. Attention must be given to the removal of any grease and oil in the pretreatment phase. The majority of existing painting lines and spraying equipment can be converted for use with water-based products at a nominal cost. Ventilation must be sufficient to ensure rapid drying of the applied coat. The ambient temperature must be +15°C minimum and the relative humidity must be below 80%.

Curing

Water evaporates more slowly than most solvents, so conditions must be suitable to encourage rapid drying of water-based coatings. Pre-heating of items to be coated, warming of paint prior to application and oven drying all assist in the rapid drying of water-based materials.



The majority of existing spraying equipment is easily converted to using water-based paints. Application of primer to a Wille s cabin at Vilakone Oy, Finland



Finnblast Oy's automatic blast cleaning machine is painted with water-based Fontecryl EP 50 - epoxy paint.

Reduction of VOC emissions

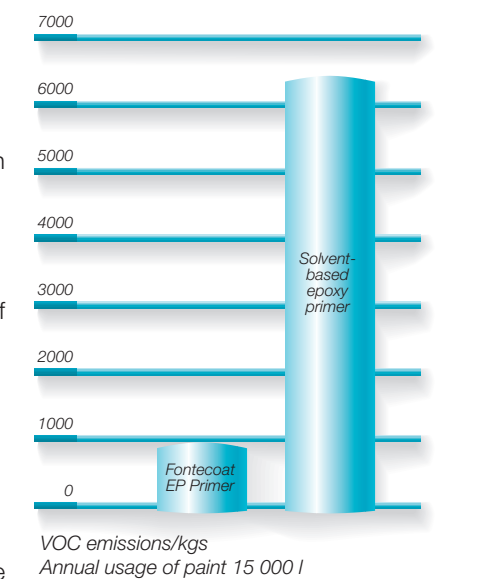
Volatile Organic Compounds (VOC's) are released into the atmosphere from various industrial processes, including energy production and vehicle exhaust fumes. Emissions from paint products constitute around 10% of the total of VOC emissions within the EU area. One major environmental problem caused by VOC's is the formation of ozone in the lower layers of the atmosphere, which causes environmental damage.

In certain paints applied to buildings, their trim and fittings, and associated structures.

A permanent solution, which longer term is also often the most economic one, for reducing VOC emissions is to substitute solvent-based products with Fonte water-based products wherever possible.

The ozone is formed as carbon hydroxides react with nitrogen oxides in sunlight. The development of new industrial paints is guided by an increasing awareness of the value of a clean environment and the tightening of environmental legislation.

The newly enacted European Union VOC Directive for installations requires the industries that use solvents and solvent-based paints to reduce their emissions by a significant amount by the year 2007. In addition VOC Directive 2004/42/EC (so called Product-VOC) limits volatile organic compound content



The VOC emissions are reduced to one sixth by using Fontecryl EP primer instead of a solvent-based epoxy primer. Anti-corrosive properties are not compromised.



Fonte two-component water-based epoxy primer has very good anticorrosive properties and is resistant to mechanical wear and chemical attack. Wille multi-purpose machine and lawn mower manufactured by Vilakone Oy, Finland, are painted with water-based Fontecryl EP Primer before getting a powder coating finish.



the clean solution

One-component Fonte paints

One-component water-based paints are generally recommended for the same uses as solvent-based one-component paints of a similar resin type. They are easy to use, and can be applied by a wide variety of application methods.

	Type of coating	Recommended uses	Characteristics
Fontecryl AP	Acrylic primer	Machinery, equipment and cast objects	Fast curing, application by spraying or dipping, good anti-corrosion properties
Fontecryl PP	Acrylic primer	Machinery, equipment and components	Fast curing paint for dipping, especially suitable as a primer under powder coatings
Fontecryl 10	Acrylic primer	Steel structures, machinery and equipment	Fast curing, good anti-corrosion properties, overcoatable with a wide range of product types, also solvent-borne
Fontecryl 10 Dipp	Acrylic primer	Cast objects, components	Application by dipping, good anti-corrosion properties
Fontecryl 25	Semi-matt acrylic paint	Steel structures, machinery and equipment	Tintable single-coat paint, good anti-corrosion properties
Fontecryl 50	Semi-gloss acrylic topcoat	Steel structures, machinery and equipment	Tintable, fast curing, good resistance to climatic stress
Fontelac QD 80	Gloss alkyd topcoat	Steel structures, machinery and equipment	Tintable, fast curing
Fontelac 90	Full gloss topcoat based on polyurethane dispersion	Components, machinery and equipment	Tintable, good resistance to climatic stress
Fontetherm PE 10/90	Matt/full gloss polyester stoving enamel	Components, coil plates	Application by spraying or dipping, good resistance to mechanical wear, excellent resistance to climatic stress
Fontepaq	Polyester stoving enamel	Barrels	Good resistance to mechanical wear, excellent resistance to climatic stress
Fonteplas AC 50	Semi-gloss acrylic paint	Plastic surfaces	Fast curing, good adhesion to the most common types of plastic including polypropylene

Two-component Fonte paints

Two-component water-based paints are generally superior to one-component paints in their resistance to mechanical wear and chemical attack. They are used for surfaces where a highly durable, long-lasting coating is required. Their resistance to corrosion and exterior weathering is at least equal to that of similar solvent-based coatings.

	Type of coating	Recommended uses	Characteristics
Fontezinc 80	Zinc epoxy primer	Steel structures, machinery and equipment within process industries	Very good anti-corrosion properties
Fontecoat EP Primer	Epoxy primer	Steel structures, machinery and equipment	Very good anti-corrosion properties, very good resistance to mechanical wear and chemical stress
Fontecoat EP 50	Semi-gloss epoxy topcoat	Steel structures, machinery and equipment	Tintable single-coat paint, very good anti-corrosion properties, very good resistance to mechanical wear and chemical stress
Fontecoat EP 80	High gloss epoxy topcoat	Steel structures, machinery and equipment within process industries	Very good resistance to mechanical wear and chemical stress
Fontedur 90	Full gloss polyurethane topcoat	Steel structures, machinery and equipment	Excellent resistance to climatic stress, good resistance to mechanical wear and chemical stress
Fontedur HB 80	High gloss polyurethane topcoat	Steel structures, machinery and equipment	Excellent resistance to climatic stress, good resistance to mechanical wear and chemical stress

FRONTE by Tikkurila – The water-based solution to reduce VOC emissions.

Tikkurila Coatings has developed the new water-based Fonte range of products to meet the demanding needs of the coating application industry. The Fonte range consists of technologically advanced coatings with easy application properties for the metal component and steel coating industries. The Fonte products are suitable for both new coating and maintenance painting of machinery, equipment, storage tanks and steel structures within a range of industries.

The products are 'environmentally friendly', easy to apply and safer to use than comparable solvent-based materials. They fully comply with new environmental regulations while also meeting the strict quality demands set by the paint application industries.

FRONTE products can be tinted with water-based TEMASPEED FRONTE colourants, which are as durable against weather conditions and UV-light as solvent-based colourants.

RAL EFFECT is a new colour card for industrial customers brought to the market by RAL Institute. It comprises of 490 shades, of which 70 are metallic. The colour card has been produced by utilizing environmentally compliant, water-based paint technology. The pigments used for the colours are the same than generally used in paint industry, eliminating any metamer problems, where colours may vary as a result of different light source. Based on these reasons, we recommend you to choose a shade for Tikkurila Coatings water-based industrial paints from RAL EFFECT colour card.

Tikkurila Coatings' experienced Technical Service personnel will be pleased to calculate the present level of your VOC emissions and to propose the most cost effective solution for reducing them. Tikkurila staff can recommend the best water-based coating system for your plant and assist in the design and implementation of new plant if required.



Temaspeed is a first-class service for industrial paint users. Through our Europe-wide distributor network we offer painting professionals the widest range of high-quality coatings manufactured by Tikkurila Coatings, reliable service and fast deliveries. www.temaspeed.com

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Water-based Fonte Industrial Coatings

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