

World Leaders in Foam Control



**BLACKBURN
CHEMICALS**
LIMITED

DISPELAIR®

DISPELAIR® PRODUCT RANGE FOR AQUEOUS SURFACE COATINGS

Dispelair® Product Code	Type of Chemistry	Appearance	Dispersibility in water
CF 16	Mineral oil, metal soap, and surfactants	Pale yellow liquid	Medium dispersibility
CF 128	White oil, hydrophobes and surfactants	Grey opaque liquid	High dispersibility
CF 217	Based on modified silicones	Colourless to grey liquid	Low dispersibility
CF 244	Emulsion of polyglycols	White emulsion	Medium dispersibility
CF 246	Mineral oil, silica and surfactants	Opaque amber liquid	Low dispersibility
CF 335	Mineral oil, silica and surfactant hybrid	Opaque amber liquid	Medium dispersibility
CF 504	Emulsion of modified silicones	White emulsion	High dispersibility
CF 698	Blend of polyglycols and modified silicones	Pale yellow liquid	High dispersibility
CF 795	Emulsion of modified silicones	White emulsion	Medium dispersibility
CF 800	Mineral oil, silica and surfactants	Opaque amber liquid	High dispersibility
CF 888	Emulsion of mineral oil, silica and surfactants	Off- white emulsion	Low dispersibility

Further information on individual products, such as regulatory compliances and national inventory status, can be found on the Product Information Sheets.

PRODUCT SELECTOR GUIDE

Dispelair® Product Code	MATT PAINT	SILK PAINT	GLOSS PAINT	VARNISHES	POLYMERS	ADHESIVES	INKS	PLASTERS	SPRAY COATINGS
CF 16	●	●				●			
CF 128				●	●	●			
CF 217	●	●	●				●		
CF 244	●	●	●	●	●	●	●		●
CF 246	●	●				●		●	
CF 335	●	●				●		●	
CF 504			●	●	●	●	●		
CF 698			●	●		●			
CF 795	●	●		●	●			●	●
CF 800	●	●			●	●			
CF 888	●	●						●	

The above products are a selection from our range. If none of the above meet your requirements we are happy to recommend and/or develop a more suitable product.

For further information or samples please contact:

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Dispelair® Foam Control Agents (FCAs)

All the main types of FCA for aqueous surface coatings are available in the Dispelair® range (see tables) so, whatever the application, we can recommend a suitable Dispelair® product.

The main requirements of a Foam Control Agent are as follows:

1. The FCA must deaerate / prevent aeration in the coating during manufacture.
2. The FCA must remain active for the shelf life of the coating. Consideration of the storage environment must be taken into account e.g. extremes of temperature.
3. The FCA must cause the bubbles to burst on application of the coating.
4. The FCA must be compatible in the coating film and must not cause any detrimental effects such as fisheyes.

The typical addition level of FCA in a coating system is around 0.1- 0.5% w/w, however in certain systems levels outside this range are required.

Our development team at Blackburn can help to recommend the correct Dispelair® product and indicate suitable addition levels by testing surface coatings in our laboratory. Evaluations can be tailored to meet the particular requirements of a customer, but the following tests give a good indication of the performance of a FCA in a specific coating system.

Spin Test

The efficiency of the FCA is measured using an air entrainment test. This gives an indication of the ability of the FCA to prevent aeration during the production process.

The test coating is weighed into a beaker, then the FCA is accurately weighed onto the surface of the coating. A wire whisk stirrer is used to mix the coating at a fixed speed, for a defined period of time, (see picture). The speed and time of agitation is determined by the foaming properties of the coating.

A rapid specific gravity (S.G.) measurement is made using a weight per gallon cup. By comparing the S.G. of the coating before and after the spin test a determination of the efficiency of the FCA is made. Several FCAs can be directly compared using this method.



Spin Testing

Application Test

The test coating without FCA is applied to a suitable substrate using a roller. The roller aerates the coating on application and, when dried, the coating film is inspected for the amount of macro and micro bubbles on the surface. The test is then repeated with FCA incorporated into the coating and a comparison is made.

A coating film with micro and macro bubbles



Compatibility Testing

Compatibility is usually determined by drawing a thin film of the test coating down on a glass plate with a wire wound bar. This is done on the test coating without FCA and then with the FCA incorporated to give a comparison. When the film has dried it is checked for imperfections.

The main compatibility issues are as follows:

1. Fisheyes. This effect is caused by localised dewetting of the coating film due to hydrophobic particles being present. (See picture below)
2. Orange Peel Effect. This is caused by a surface tension gradient in the coating film and can produce a surface similar to an orange peel.
3. Floating of the FCA on the surface of the coating. This can happen if the FCA does not disperse well within the coating. If the the FCA has a lower S.G. than the coating then it may float to the surface.
4. Clouding. This is a problem particularly with clear varnishes. FCAs containing silica can sometimes cause the clear film to become opaque.
5. Gloss. It is important when using a FCA in a gloss paint formulation that there is no reduction of gloss in the final film. This is measured using a gloss meter.

A coating with fisheyes

