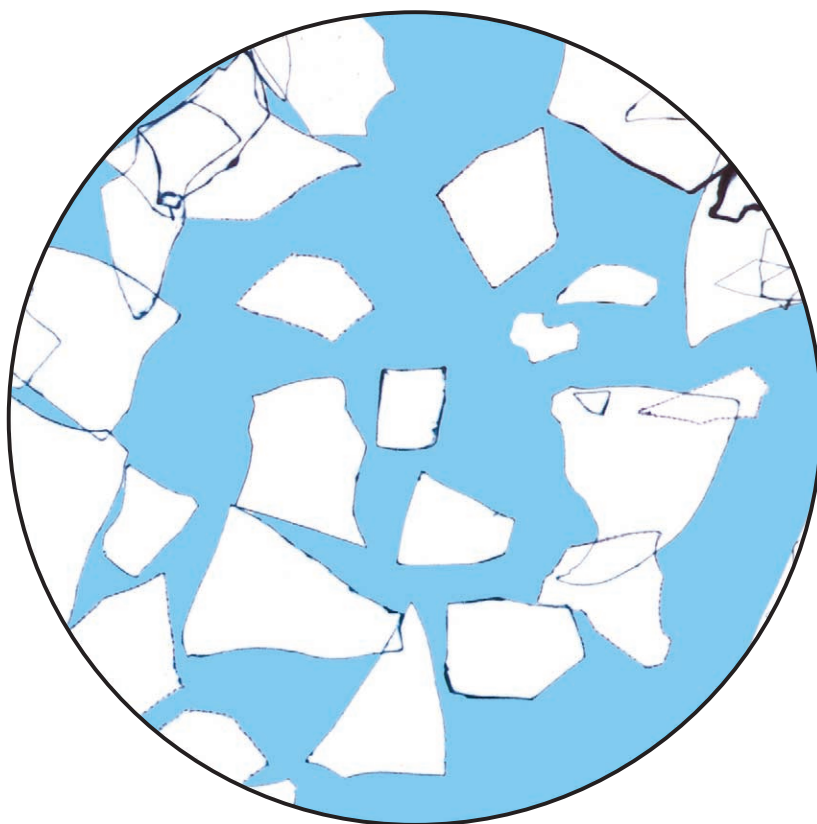


# Microglas® Glass Flake RCF2300

*Extending horizons in anti-corrosion coatings*



**NSG**  
NIPPON SHEET GLASS

**NGF**  
EUROPE

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## Introducing Microglas® Glass Flake RCF2300

**Microglas® RCF2300 is a C glass platelet approximately 2 microns thick and 300 micron in diameter.**

Microglas® RCF2300 can be used to extend the range of glass flake coatings beyond the traditional high film thickness applications in offshore and similar aggressive environments.

RCF2300 can be used in coatings with a dry film thickness ( DFT) of 500microns or less. These thinner coatings are economically suitable for a broad range of applications which could not consider traditional flake coatings; examples of these include road, rail and foot bridges, civil engineering structures and fluid storage facilities.

## Classification of Microglas® Glass Flake RCF2300

Type	Non-Surface treated	Surface treated
Product code	RCF2300	RCF2300A
Glass Composition	C glass	C glass
Specific gravity	2.5	2.5
Thickness (μm)	Ave. 1-3	Ave. 1-3
>1700μm	0	0
1700~300	80 - 20	80 - 20
300~150	20 - 60	20 - 60
150~45	25 or less	25 or less
<45μm		
Loss on ignition(%)		0.15 ± 0.10
Surface Treatment agent		Aminosilane

### Identification of Microglas® Glass Flake

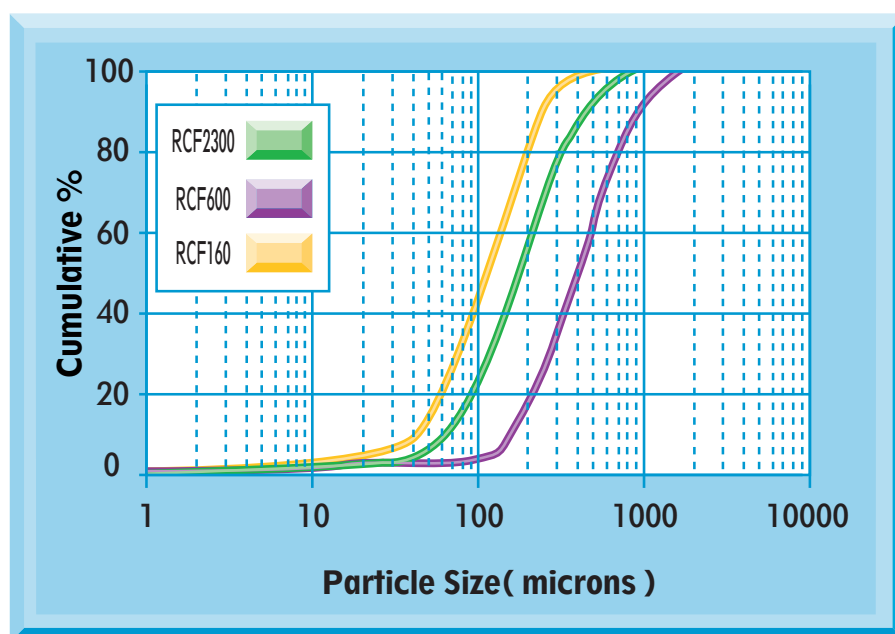
R C F    C glass  
 2        Glass flake thickness (Nominal μ)  
 300     Particle size (Nominal μ)  
 A        Type of surface treatment

Surface Treatment	Treatment Code
Acrylsilane	N
Aminosilane	A

### Microglas® Glass Flake RCF2300

is available in a range of surface treatments to suit different resins.

## Particle size distribution and bulk density



	Bulk density (g / cc)	Bulk density after shaking (g / cc)
RCF2300	0.16	0.25
RCF600	0.20	0.30
RCF160	0.40	0.65
RCF015	0.75	1.15

## The Benefits of RCF2300

### 1) Economic

Many structures are traditionally painted with several coats of systems containing micaceous iron oxide (MIO) and involve costly additional processes such as liquid metal spraying of zinc or aluminium prior to coating.

Microglas® Glass Flake RCF2300 can improve the performance of the coating sufficiently to avoid the use of these expensive additional operations.

The long term stability and barrier performance of Microglas® Glass Flake can extend the service life of the coating beyond that of the traditional systems.

**In summary Microglas® RCF2300 allows the formulation of coating systems offering significantly reduced total coating cost per square metre compared to traditional systems.**

### 2) Environmental

The need to reduce the environmental impact of coatings has never been greater. Microglas® Glass Flake can be used in formulations with reduced volatile organic compounds (VOC) in order to meet environmental requirements.

To reduce evaporation from tanks or aesthetic impact many large structures are now required to be coated in specific colours.

**Microglas® Glass Flake offers complete colour flexibility unlike many traditional types of filler such as micaceous iron oxide which restrict colours to a grey base.**

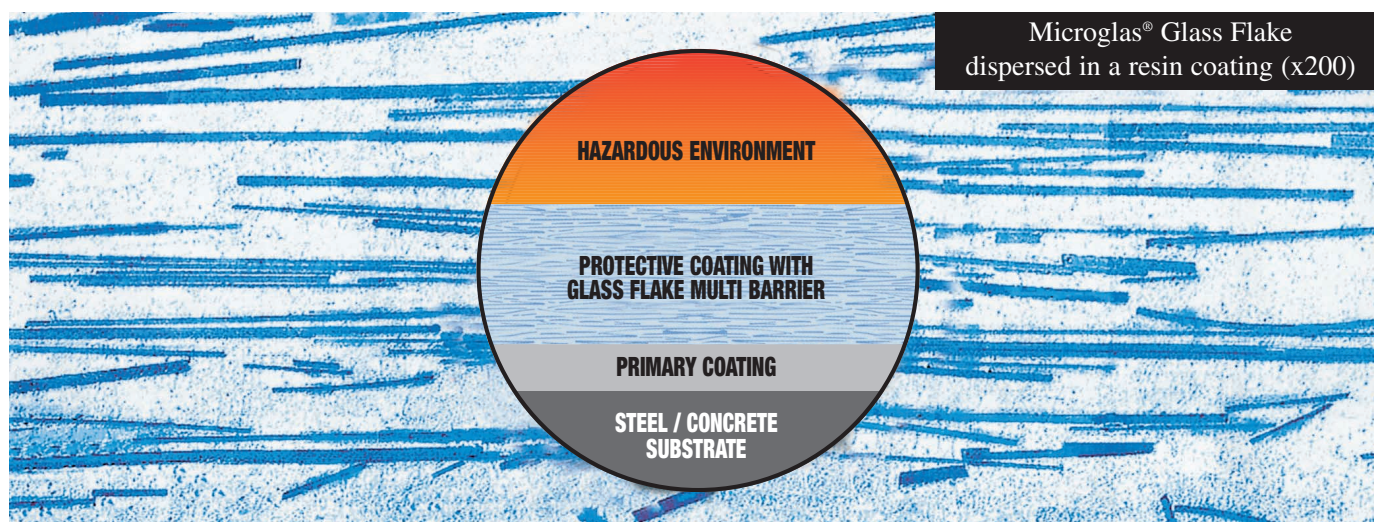
### 3) Health and Safety

Health and safety regulations are becoming increasingly demanding.

Many traditional coating systems e.g. coal tar epoxy can contain harmful substances which are no longer permitted in coatings.

**Coatings containing Microglas® Glass Flake can be used to formulate cost effective replacements for many traditional systems**

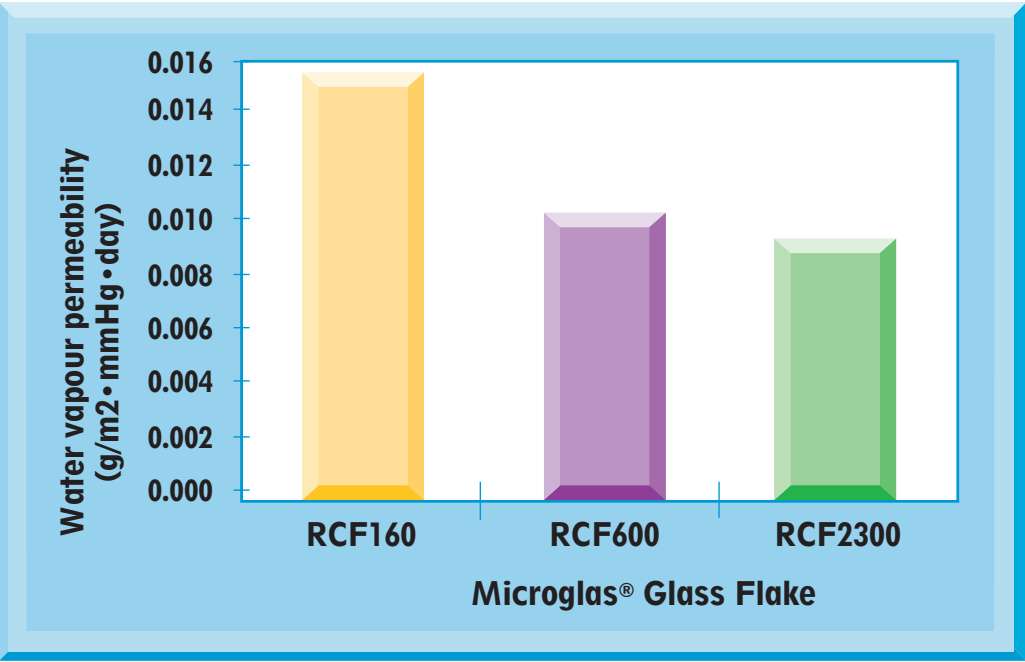
## Advantages of Microglas® Glass Flake



- **Extend life of protective coating.** Glass flakes dispersed through the coating prevent the ingress of water vapour and chemical solutions.
- **Improved wear resistance.** Glass flakes increase the hardness of epoxy and polyester resin coatings, giving higher resistance to surface wear.
- **Prevention of cracking and peeling.** Glass flakes provide a thermal stabilisation layer in the protective coating and greatly reduces the risk of cracking and peeling of the coating due to thermal shock.
- **Chemical resistance.** C glass has greater resistance to chemical attack, compared to other types of glass.

# Microglas® Glass Flake – in anti-corrosion coatings

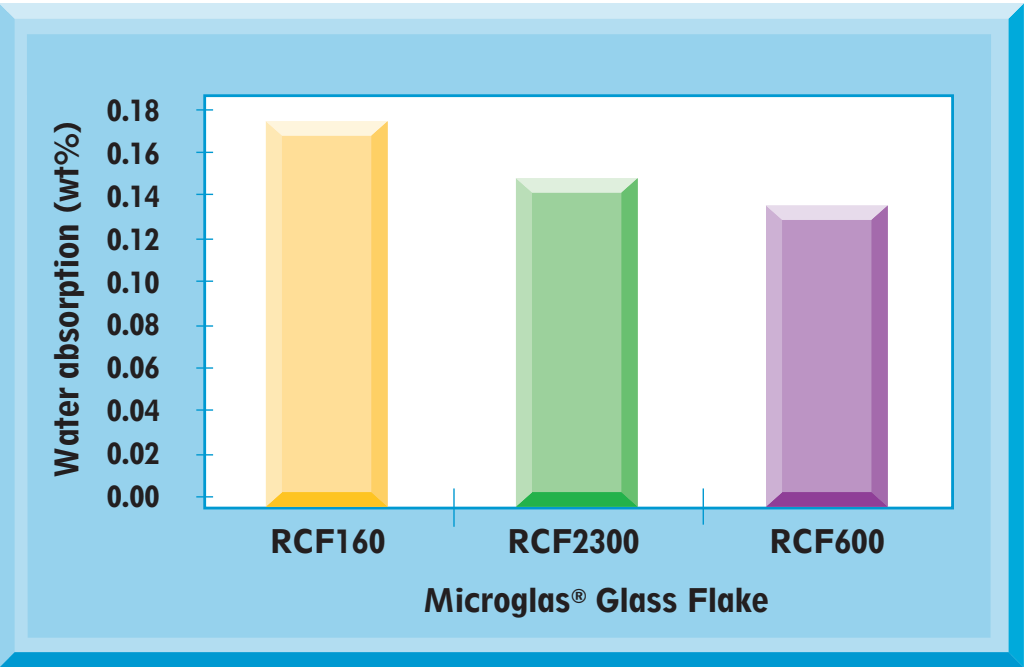
## Water vapour permeability (JIS Z0208)



Test piece  
Resin: Vinyl ester A  
Ripoxy R802  
Thickness of lining layer : 1mm  
Glass Flake content : 30wt%

RCF2300 has excellent water vapour barrier properties.

## Water absorption

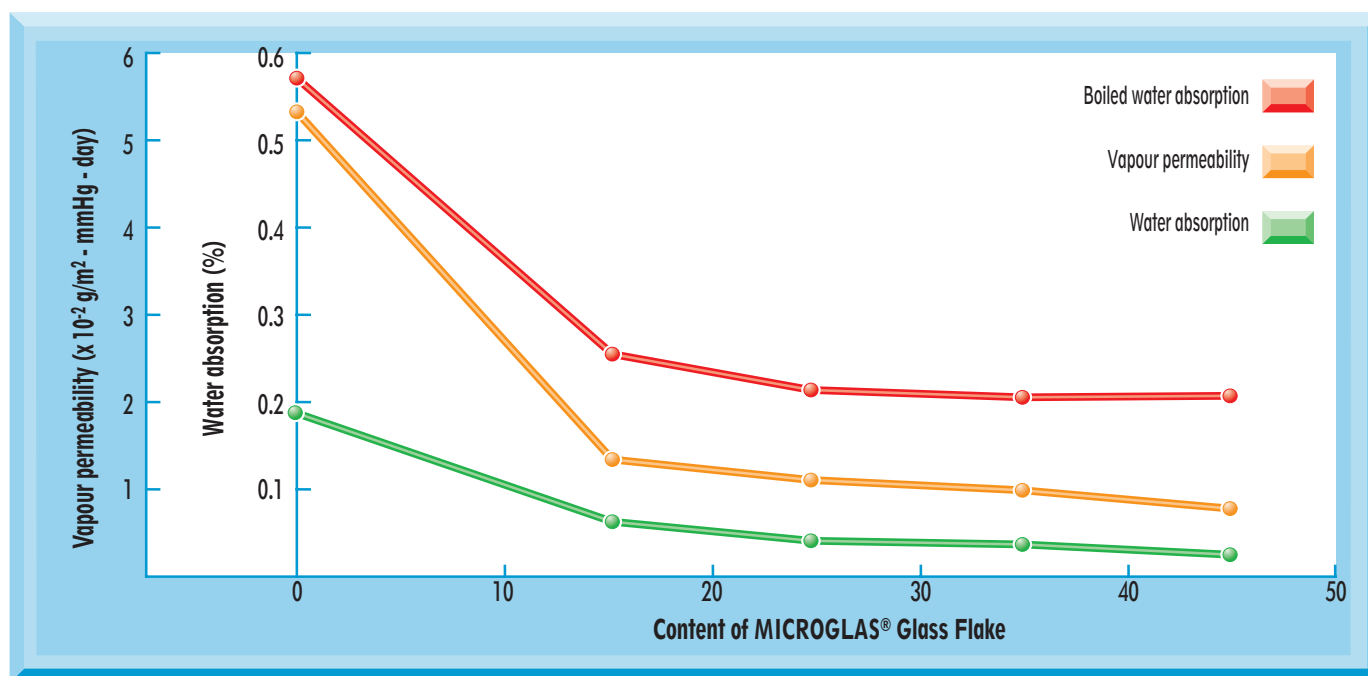


Test piece  
Resin: Vinyl ester A  
Ripoxy R802  
Glass Flake content : 35wt%  
Test Method: immersed in water  
for 24Hr at 23°C

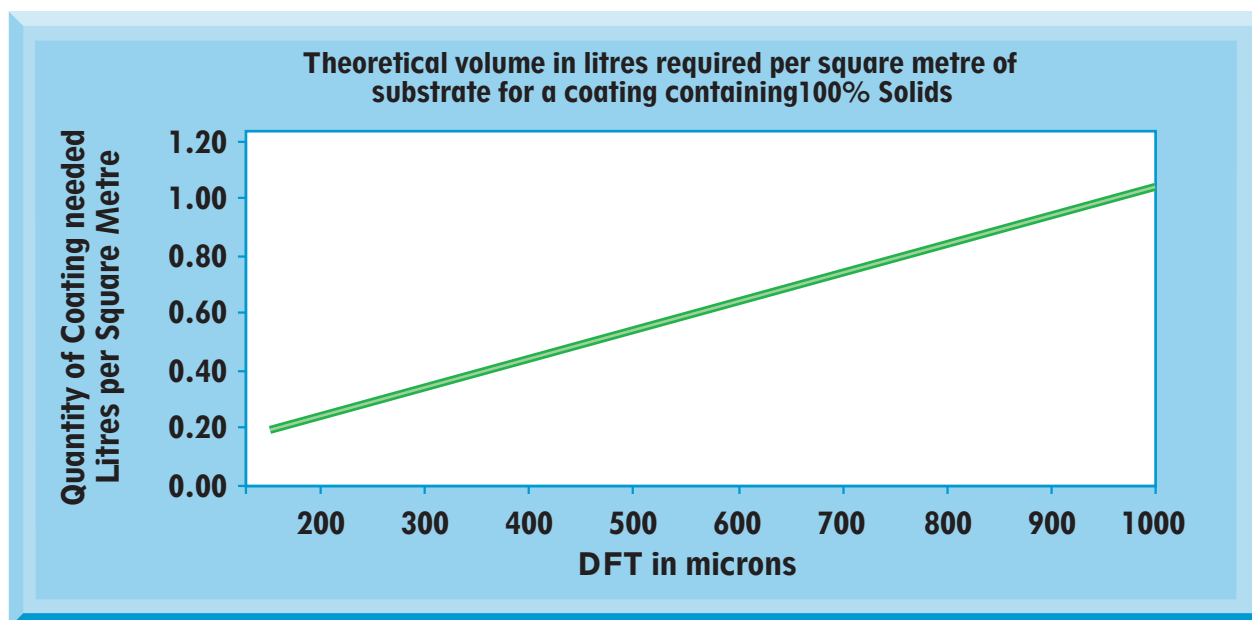
The water absorption barrier performance of RCF2300 approaches that of RCF600.  
RCF2300 has the advantage of allowing the application of coatings by airless spray.



## Qualitative effect of Flake addition level



## Reduced Dry Film Thickness(DFT) = Reduced System Cost



RCF2300 enables high performance to be achieved at reduced DFT.

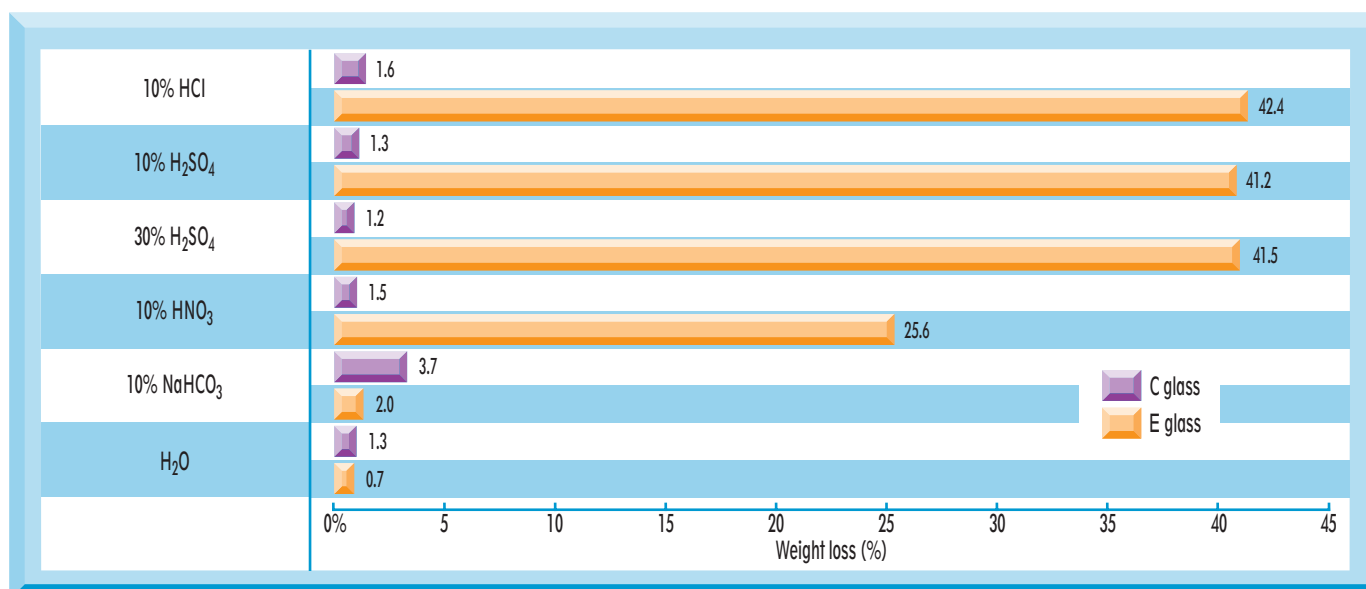
This reduces coating costs and saves application time.

%solids	DFT in microns								
	200	300	400	500	600	700	800	900	1000
100.00%	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
80.00%	0.25	0.38	0.50	0.63	0.75	0.88	1.00	1.13	1.25
60.00%	0.33	0.50	0.67	0.83	1.00	1.17	1.33	1.50	1.67

## Glass Composition

Type of glass	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	MgO	B <sub>2</sub> O <sub>3</sub>	Na <sub>2</sub> O+K <sub>2</sub> O	ZnO
C glass (%)	65~72	1~7	4~11	0~5	0~8	9~13	0~6
E glass (%)	52~56	12~16	16~25	0~6	5~13	0~0.8	---

- Chemical resistance.** C glass has greater resistance to chemical attack, compared to other types of glass, as shown below.



Comparative weight loss of C and E glass when immersed in chemical solution at 80°C for 24 hours.



Coatings using Microglas® RCF2300 can achieve savings in life cycle cost over traditional coatings for large structures such as bridges.

## Packaging

Microglas® Glass Flake RCF 2300 is supplied in moisture proof paper bags, each containing 20 kgs nett weight.

For bulk shipments, the bags of glass flake are palletised and further protected by cardboard and polythene wrapping. The overall dimensions of a fully loaded pallet are 1100 x 1160 x 1020mm high.



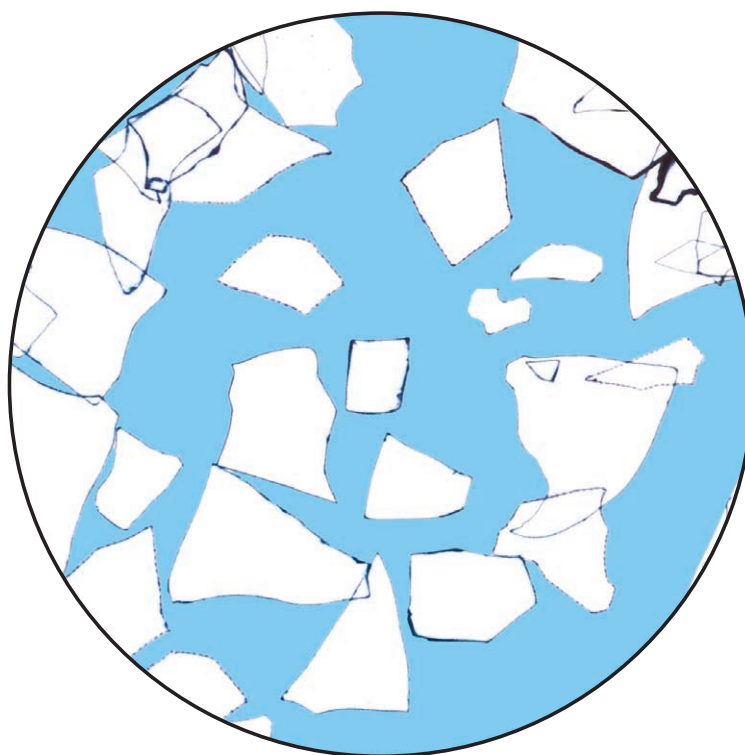
Pallet Loadings				
Glass Flake RCF2300	:	14	x	20 kg bags (280 kg total nett weight)

Shipping container loadings, nett weights		
	20' Container	40' Container
Glass Flake RCF2300	5.6 tonnes	11.2 tonnes



Typical apperance of Flake





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