

## Florrea Flotation Solution of PGM Ores

Florrea is the newest world leading supplier of beneficiation reagents to the Platinum Group Metals industry.

### Florrea Flotation Solutions of PGM Ores Introduction

Some copper-nickel and nickel ores contain platinum group metals.

Florrea has established the highest recoveries of these metals are achieved with a combination of a long-chain xanthate, such as Florrea SIBX(sodium isobutyl xanthate )and Florrea PAX (potassium amyl xanthate), and Florrea C3002, 3004 and Florrea C2214, C4000 collectors. Where high frothing collectors cannot be tolerated, the non-frothing Florrea C8800 collector is preferred.

The best xanthate to dithiophosphate ratio is in the range 1:1 to 1:3 and total collector usage is generally from 25 to 75 g/t.

Higher recoveries are obtained with considerably higher flotation rates. More recently, such collectors as Florrea C9200, Florrea C8800, and Florrea C9402 , C9980 collectors have been shown to further improve flotation kinetics and overall PGM recoveries. These products should be tested as auxiliary collectors at a dosage of 5 to 15g/ton.

Florrea C9980 collector has shown to be very effective on platinum.

Faster kinetics of PGM alloys and sulfides have been achieved on pilot plant trials when Florrea C9980 collector is used in conjunction with sodium isobutyl xanthate. It can totally replace the need for a dithiocarbamate collector that is used in almost all of the South African operations.

For the depression of talc-like minerals such as pyroxenite, the use of depressant Florrea D140 and Florrea D140-7 is an excellent alternative to guar gum or CMC.

Benefits include easy make up and consistency of composition, unlike guar whose composition changes year to year.

**Florrea PGMFlot series Flotation Reagents for PGM ores flotation**

Flotation Reagent	Florrea PGMFlot	Application	Form	pH Range	Dosage g/T	Feeding method	Adding points
Collectors	SIBX	Xanthate Collector for PGM	pellet	As lab testing and ore characteristics			
	PAX						
	C3002	Used as a replacement for DTPs where a low frothing collector is needed.	solid	7-12	20-150	1-20% solution	Conditioning or mill
	C3004		aqueous				
	C2214	Collector for Cu,Ni, Precious metals and PGM	oily	7-12	5-100	1-20% solution	Conditioning or mill
	C4000		oily	7-12	5-100	1-20% solution	Conditioning or mill
	C8800	Selective collector for metallic gold and gold associated with copper sulfides	oily	7-12	5-50	undiluted	Grinding mill
	9200	Medium strength oily collector used where there is copper sulfides associated with precious metals	oily	9.5-11	5-30	undiluted	Grinding mill Conditioning tank
	9305	Medium strength collector, especially used for the recovery of coarse middlings particles.	oily	9.5-11	5-30	undiluted	Grinding mill Conditioning tank
	9402	Stronger than 9305	oily	9.5-11	5-30	undiluted	Grinding mill Conditioning tank
9980	Excellent for metallic PGMs and PGM sulfides. Can be used with or without xanthate.	oily	7-12	5-150	undiluted	Conditioning or mill	
Frother	F500	frother	oily	As lab testing and ore characteristics			
	F520	frother	aqueous				
	F550	frother	aqueous				
Depressant	D140	Talc (MgO) depressant	granular	As lab testing and ore characteristics			
	D140-7		powder				



**BEST VALUE ADDED FLOTATION REAGENTS**

ISO 9001 Certified NO. : 086911Q

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