

Test SC2/F2 - Stage grind to 100% -150 μm at 60% solids (4 min., 500 g charge); deslime at 7 μm ; talc and sulphide pre-floats; stage tin rougher floats with PTAA as collector.

(a) Flotation Conditions and Reagents

Stage	Conditions		pH	Reagent Addition kg/t			
	Time (min.)			SSBX	PTAA	H ₂ SO ₄	MIBC
	Conditioning	Flotation					
Talc Pre-float	2	5	7.3	-	-	-	0.04
Sulphide Ro Float 1	2	5	7.6	0.01	-	-	0.02
Sulphide Ro Float 2	2	5	7.6	0.01	-	-	0.02
Tin Ro Float 1	5	5	5.0	-	0.30	0.60	0.02
Tin Ro Float 2	5	5	5.0	-	0.30	0.40	0.01
Tin Ro Float 3	5	5	5.0	-	0.25	0.30	0.01

(b) Results

Test Product	Weight %	Assay % Sn	Distribution % Sn
Talc Ro Conc	16.52	0.89	11.30
Sulphide Ro Conc	28.60	0.27	5.94
Tin Ro Conc 1	1.82	9.08	12.69
Tin Ro Conc 2	2.63	24.1	48.73
Tin Ro Conc 3	2.04	8.04	12.61
(Tin Ro Conc 1 to 3)	(6.49)	(14.8)	(74.03)
Tin Ro Tail	46.60	0.23	8.24
Slime -7 μm	1.79	0.36	0.49
Calc Head	100.00	1.30	100.00
Assay Head		1.20	

(c) Comments

- (i) Tin losses in -7 μm slime material of a grind size 100% -150 μm were very small.
- (ii) As a result of desliming flotation feed, the overall tin flotation rougher concentrate grade was improved from about 4% (Test SC2/F1) to 15% in this test while maintaining similar recovery after 3 stages of rougher flotation.
- (iii) In the 2nd tin rougher flotation stage of this test, a very high grade concentrate of 24.1% Sn was obtained at a high recovery of 48.73%. So far, this was the best flotation selectivity observed in testing PTAA as collector.