

## **Useful Life of Partition Enterprises Density Tracers in Diamond Processing applications**

Partition Enterprises density tracers contain fine solid particles in a resin matrix. The particles are thoroughly dispersed, so wear or chipping has little effect on density unless the remaining material has volume less than that of a 1mm cube. However, reduction in volume by wear or chipping causes a tracer to behave like a particle smaller than the tracer nominal size.

Furthermore, much of the wear and chipping occurs on the tracer corners, altering the fluid drag characteristics of the particle. It is therefore recommended that a tracer be discarded if its volume has fallen to less than 80% of its nominal value. Quality control requires a simple mass determination of each tracer and comparison with the relevant figure in the table below. The 80% is an arbitrary value. Unless there is substantial breakage or particle retention within a cyclone, it should allow many passes through a dense medium circuit.

### ***Minimum Acceptable Masses (in grams) of Partition Enterprises Density Tracers***

Nominal Density (g/cc)	Colour	2mm	3mm	4mm	5mm	6mm	8mm	10mm	12mm	16mm	20mm
RD 2.50	Light Pink	0.016	0.054	0.128	0.250	0.432	1.024	2.000	3.456	8.192	16.000
RD 2.60	Lilac	0.017	0.056	0.133	0.260	0.449	1.065	2.080	3.594	8.520	16.640
RD 2.65	Blue/Green	0.017	0.057	0.136	0.265	0.458	1.085	2.120	3.663	8.684	16.960
RD 2.70	Grey	0.017	0.058	0.138	0.270	0.467	1.106	2.160	3.732	8.847	17.280
RD 2.75	Dark Blue	0.018	0.059	0.141	0.275	0.475	1.126	2.200	3.802	9.011	17.600
RD 2.80	Green	0.018	0.060	0.143	0.280	0.484	1.147	2.240	3.871	9.175	17.920
RD 2.85	Apple Green	0.018	0.062	0.146	0.285	0.492	1.167	2.280	3.940	9.339	18.240
RD 2.90	Cream	0.019	0.063	0.148	0.290	0.501	1.188	2.320	4.009	9.503	18.560
RD 2.95	Light Blue	0.019	0.064	0.151	0.295	0.510	1.208	2.360	4.078	9.667	18.880
RD 3.00	Orange	0.019	0.065	0.154	0.300	0.518	1.229	2.400	4.147	9.830	19.200
RD 3.05	Lime Green	0.020	0.066	0.156	0.305	0.527	1.249	2.440	4.216	9.994	19.520
RD 3.10	Dark Pink	0.020	0.067	0.159	0.310	0.536	1.270	2.480	4.285	10.158	19.840
RD 3.15	Brown	0.020	0.068	0.161	0.315	0.544	1.290	2.520	4.355	10.322	20.160
RD 3.20	Violet	0.020	0.069	0.164	0.320	0.553	1.311	2.560	4.424	10.486	20.480
RD 3.25	Peach	0.021	0.070	0.166	0.325	0.562	1.331	2.600	4.493	10.650	20.800
RD 3.30	Yellow	0.021	0.071	0.169	0.330	0.570	1.352	2.640	4.562	10.813	21.120
RD 3.40	Black	0.022	0.073	0.174	0.340	0.588	1.393	2.720	4.700	11.141	21.760
RD 3.53	Blue	0.023	0.076	0.181	0.353	0.610	1.446	2.824	4.880	11.567	22.592