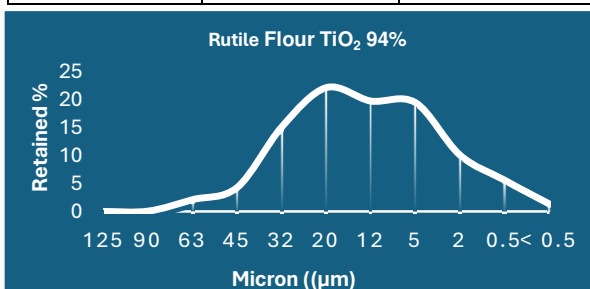


RUTILE FLOUR 94% TiO₂



Particle Size Analysis* ¹		
Micron (μm)	Guaranteed (%)	Retained (%)
125	0	0
90	< 1	0.08
63	0 ~ 5	2.12
45	2 ~ 10	4.32
32	5 ~ 20	15.10
20	15 ~ 30	22.12
12	10 ~ 25	19.76
5	10 ~ 25	19.44
2	5 ~ 20	10.09
0.5	2 ~ 10	5.60
Below 0.5	< 5	1.37



Mineralogical Report* ⁵		
Minerals	Guaranteed (%)	Typical (%)
Rutile	97.00 Min	97.58
Zircon	2.50 Max	2.12
Leucoxene	0.30 Max	0.16
Others	0.30 Max	0.14

Chemical Content* ²		
Elements	Guaranteed %	Typical (%)
TiO ₂	94.00 Min	94.49
Fe ₂ O ₃	1.200 Max	0.988
SiO ₂	1.200 Max	0.929
ZrO ₂ +HfO ₂	1.500 Max	1.423
Al ₂ O ₃	0.500 Max	0.378
V ₂ O ₅	0.800 Max	0.671
P*	0.025 Max	0.021
P ₂ O ₅	0.050 Max	0.047
S*	0.020 Max	0.013
SO ₃	0.040 Max	0.032
CaO	0.020 Max	0.011
MgO	0.008 Max	0.004
Nb ₂ O ₅	0.250 Max	0.123
U(ppm)	100 Max	46
Th (ppm)	75 Max	20

Physical Parameters		
Parameters	Guaranteed	Typical
LOI @ 1000°C* ⁶	0.50 % Max	0.30 %
H ₂ O @ 110°C* ⁷	0.50 % Max	0.32 %
Radioactivity	700 Bq/kg Max	649 Bq/kg
Specific gravity	4.5 ~ 5.2	4.78
Bulk Density	1.5 to 2.2 t/m ³	1.72 t/m ³
Colour	Black/ Brown	Brown

1. Particle Size determined by Malvern instrument Mastersizer 2000

2. Chemical assay tested by X Ray Florescence Spectrometry (Epsilon 1 / Axios Max). Instrument calibrated with standard samples and tested by Bureau Veritas.

3. * Element Phosphorus (P) calculated from the Compound P₂O₅ by its molecular mass

4. * Element Sulphur (S) calculated from the

5. Mineral purity determined by Grain counting.

6. Loss on ignition (LOI @1000°C) determined gravimetrically.

7. Moisture content (H₂O) determined by the method of ASTM C566/ISO 11127-5.

8. This material is naturally occurring and some variations in grain size and/or chemical analyses can be expected. Other guarantees for specific elements are subject to discussion for individual contracts.

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