

FJS-1/FJS-1g

Shimizu Lunar Soil Simulant

The Moon is attracting many people's attention as a place not only to explore but also to develop new business. Various experimental studies are needed on the earth to acquire the technologies that can support the realization of such dreams. FJS-1/FJS-1g will be useful materials for your study.

Chemical Composition

Oxides	Apollo 11	Apollo 14	FJS-1*	FJS-1	FJS-1g
SiO ₂	42.2	48.1	49.1	49.8	50.4
TiO ₂	7.8	1.7	1.9	1.4	1.5
Al ₂ O ₃	13.6	17.4	16.2	19.9	16.8
Cr ₂ O ₃	0.3	0.23	-	0.01	0.01
FeO	15.3	10.4	8.3	2.0	0.8
Fe ₂ O ₃	-	-	4.8	8.2	13.0
MnO	0.2	0.14	0.19	0.18	0.22
MgO	7.8	9.4	3.8	3.9	3.9
CaO	11.9	10.7	9.1	10.2	10.6
Na ₂ O	0.47	0.7	2.7	2.9	2.0
K ₂ O	0.16	0.55	1.0	0.68	0.46
P ₂ O ₅	0.05	0.51	0.44	0.25	0.11
S	0.12	-	-	-	-
H ₂ O	-	-	0.43	0.09	-
Total	99.9	99.8	98.1	99.5	99.7

* Original Version

Modal Abundance

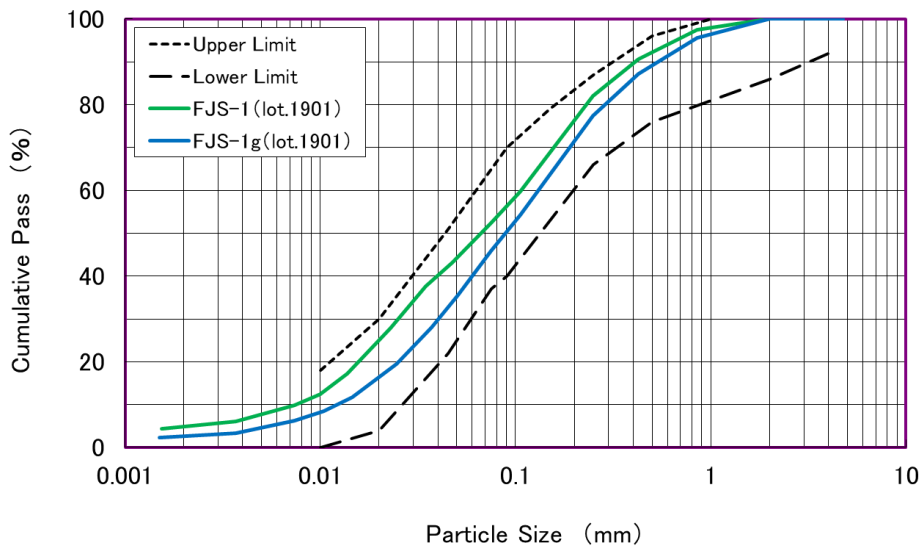
Minerals	Apollo11	Apollo16	Apollo17	FJS-1	FJS-1g
Plagioclase	16.8	42.5	13.9	43.9	38.6
Olivine	1.4	2.1	3.9	-	-
Pyroxene	16.0	4.4	20.5	24.6	22.5
Ilmenite	6.4	0.3	10.4	15.3*	11.6*
Glass	57.3	50.1	50.3	13.8	25.0

* opaques

Mechanical Properties

Property	Apollo	FJS-1	FJS-1	FJS-1g
Particle Density (g/cm ³)	2.3 – 3.2	2.94	2.87	2.86
Shear Strength				
c: Cohesion (kN/m ²)	0.1 – 1	8	0.9	0.5
Φ: Internal Friction Angle (deg.)	30 - 50	37.2	36.1	37.5

Particle Distribution



Purchase Information

	FJS-1 (Lot.1901)	FJS-1g (Lot.1901)
Unit Price / 15kg*		
Exclude:		
Shipping fee	JPY 90,000	JPY 112,500-
Tax (custom duty and others)		

Shimizu Corporation, Emerging Frontiers Division
<https://www.shimz.co.jp/en/>