

TECHNICAL BULLETIN ASTM-C618: EXAMPLE FOR ALLUVIAL FEEDSTOCK



OPUS SCM meets ASTM-C618 Specifications

Terra's OPUS SCM is a supplementary cementitious material (SCM) manufactured from various aggregate feedstocks. The table below shows results for a representative alluvial feedstock used in a concrete mix design. Alluvial deposits can be chemically attractive for the OPUS process and meet and/or exceed the specifications for a Class N pozzolan. When used to

partially substitute Portland cement, OPUS SCM improves the performance and durability of concrete. Its chemical and physical properties are carefully monitored to be compatible with Portland cement and match the concreting needs of today. OPUS SCM also performs competitively when compared to most Class F fly ash sources.

		Class N pozzolan	Class F fly ash	OPUS SCM
Class		N	F	N
Chemical Properties:				
SiO ₂ + Al ₂ O ₃ + Fe ₂ O ₃	min %	70	50	91.5
SO ₃	max %	4	5	0.0
CaO	max %	n/a	8	0.9
Moisture content	max %	3	3	0.06
Loss on ignition	max %	10	6	0.1
Optional chemical				
Available alkalis, as Na ₂ O	max %	1.5	1.5	1.15
Physical Properties:				
Fineness, retained on #325 sieve (%)	max %	34	34	5
Strength Activity Index (SAI)				
- Percent of control at 7 days	min %	75	75	82
- Percent of control at 28 days	min %	75	75	86
Water requirement	max %	115	105	99
Autoclave expansion	max %	0.8	0.8	-0.02
Density	g/cm ³	n/a	n/a	2.57
Optional physical				
Drying shrinkage	max %	0.03	0.03	0.0

This table provides the chemical composition and physical properties of OPUS SCM, which was validated by independent laboratories certified by ASTM. Terra recommends that end-users test OPUS SCM in concrete mix designs using their local materials to confirm performance.