

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.