



Revised: September 1, 2011

ORCA WASHED GRAVEL 1" x No.4 (25.0 x 4.75mm)

The Orca concrete aggregates are produced at the Orca Quarry, Port McNeill, B.C., in a modern and efficient washing and processing plant opened in March 2007 and distributed via ocean-going ships or barges.

The California Department of Transportation has established that aggregates from this source are innocuous with respect to Alkali Silica Reactivity and has approved them for use in reduced mineral admixture concrete. Caltrans # 10-Can-OR-2 (www.dot.ca.gov/hq/esc/approved_products_list/pdf/Aggregate_List_04_5_10.doc)

Independent laboratory concrete trial mixes using Orca 1" x #4 gravel and Orca washed concrete sand produced results designated "Low Shrinkage" in accordance with test method ASTM C157 (Modified).

The 1" x No.4 (ASTM Type 57) gravel is produced through a precise computer-controlled blending system from two separate size fractions, 1" x 1/2" (25.0 x 12.5 mm) and 1/2" x No.4 (12.5 x 4.75 mm).

GRADATION – PERCENTAGE PASSING

SIEVE SIZE	ORCA GRAVEL * (Typical Values)	SPECIFICATIONS	
		CALTRANS Per: 90-3.01 (2006)	ASTM C33-03 Type 57
37.5 mm (1-1/2")	100	100	100
25.0 mm (1")	100	88 – 100	95 – 100
19.0 mm (3/4")	85 X = 85	70 – 100 X ± 15	
12.5 mm (1/2")	40		25 – 60
9.5 mm (3/8")	24 X = 30	15 – 45 X ± 15	
4.75 mm (#4)	<1	0 – 16	0 – 10
2.36 mm (#8)	<1	0 – 6	0 – 5

* Blend Ratio: 65% of 1" x 1/2" (25.0 x 12.5 mm) with 35% of 1/2" x No.4 (12.5 x 4.75 mm).

PROPERTIES

	TEST	ORCA	SPECIFICATIONS	
			CALTRANS	ASTM
Specific Gravity, bulk SSD	CT 206	2.88		
Absorption	CT 206	0.5		
Dry Rodded Unit Weight, pcf	CT 212	115		
Cleanness Value	CT 227	>80	75 Min.	
Durability	CT 229	90		
Sodium Sulfate Soundness	CT-214	<1%	10% Max.	12% Max.
Magnesium Sulfate Soundness	C-88	<1%		18% Max.
Los Angeles Abrasion (500 Revs)	C-535	5%	45% Max.	50% Max.
Materials Finer Than No. 200	C-117	<0.5%		1.0% Max.
Lightweight Pieces (Coal or Lignite)	C-123	0.0%		0.5% Max.
Lightweight Pieces (Chert & Shale)	C-123	<0.5%		5.0% Max.
Clay Lumps and Friable Particles	C-142	<0.5%		5.0% Max.
Alkali Silica Reactivity	C-1260	Innocuous	0.15% Max.	0.10% Max.
Alkali Silica Reactivity	C-1293	Innocuous	0.04% Max.	0.04% Max.

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