EXHIBIT C



CPCC's History



Colton Cement Plant - circa 1914

California Portland Cement is the oldest continually producing portland cement company west of the Rocky Mountains. For over half a century the company consisted of a corporate office in Los Angeles and the "Works at Colton." Mt. Slover provided the source of limestone for Colton Cement.

During the second half century, new names and new products became associated with the company. Arizona Portland Cement, produced at Rillito, Arizona and Mojave Portland Cement, produced at Creal, California joined the labels marketed by the California Portland Cement Company. The products changed also with the production of plastic and gun plastic cement, among others.

Changes also took place in the corporate structure with an increase in available stock, membership in the American Stock Exchange, a merger with Conrock Co., and the reemergence of California Portland Cement as part of the Taiheiyo (Onoda) Cement family.

The road from 1891 to the present has not always been smooth and level for California Portland Cement. There were plenty of rough places and unexpected dips and turns, but through it all the company has endeavored to maintain "Quality Unsurpassed."

Our sales professionals are experts in matching our cements to your needs and strive to make every client relationship mutually beneficial.

From its early years, CPCC has remained a leader in the industry through it's commitment to quality

and customer service. Our reputation for coordinating product transportation and ensuring on-time delivery service is considered by many to be the finest in the industry. California Portland Cement Company's laboratories and technical staff also provide a variety of services to our customers. These services are another expression of our commitment to a second century of Quality Unsurpassed.





Corporations, by their very nature, often have a longer life span than people. It is people, however, who provide the life blood of any corporation. That has certainly been the case with California Portland Cement Company. It has been the people at all levels, working to maintain the Company's slogan - "Quality Unsurpassed Since 1891" throughout our years in business. A remarkable number of our employees spend thirty years or more with the company.

These are our Executives, people who have worked their way up through the ranks, to work together to lead and enrich California Portland Cement Company with their knowledge and expertise, as we move ahead into the future.



JAMES A. REPMAN President Chief Executive Officer



JOHN H. RENNINGER Senior Vice President General Counsel & Secretary



JAMES A. WENDOLL Senior Vice President Chief Financial Officer

Photo	Conversion of
not	00000000000
available	10000
at this time	The second s
and the second s	

RONALD SUMMERS Senior Vice President General Manager Material's Division



JOHN H. BENNETT, Jr. Vice President Environmental Matters



RICK PATTON Senior Vice President Operations - Cement Division



J. MICHAEL BURTON Vice President Chief Accounting Officer



MARY C. HERNANDEZ Vice President Communication & Information Services



WILLIAM KLAWITTER Vice President, Sales Catalina Pacific Concrete



STEVEN A. REGIS Vice President Engineering Services



JOHN D. CLEMENTE Vice President Human Resources



PAUL MOORE Vice President, Operations Catalina Pacific Concrete





. •



Sales & Technical Service Information

For Cement:



Arizona:





Contact our Corporate Sales Office @ 602/271-0069

For Products: Craig Starkey -<u>cstarkey@calportland.com</u> or Doug Schlueter dschlueter@calportland.com

For Technical Service: Steve Whitley swhitley@calportland.com

* Nevada:

David Anaya - 626/852-6290, danaya@calportland.com Contact our Corporate Sales Office @ 626/852-6290

For Products: Southern California San Diego / Las Vegas - David Anaya-<u>danaya@calportland.com</u> Los Angeles Metro - Brad Scherer -<u>bscherer@calportland.com</u> Inside Sales - Don Kennard -<u>dkennard@calportland.com</u>

> Northern California: Stockton Terminal

Mike Dominisse @ 209/982-1184, mdominisse@calportland.com

Wilmington Import Terminal:

310/835-5370 - Pete Bulthuis pbulthuis@alliedcement.com

For Technical Service:

Southern California - Kirk McDonald - <u>kmcdonald@calportland.com</u> Northern California - Don Osborne - <u>dosborne@calportland.com</u>



For Concrete

Los Angeles County:

Orange County:

Contact our Azusa Sales Office 626/334-3226 Contact our San Juan Capistrano Sales Office 949/728-0448

For Technical Service:

Contact our Azusa Lab - 626/812-6411 Griff Sparks - <u>esparks@calportland.com</u> Ron Delia - <u>rdelia@calportland.com</u>





For CEMENT SALES Information and/or For TECHNICAL SERVICES call 602/271-0069

Arizona's Twin Peaks provide the source of limestone for the Arizona Portland Cement Company. Located 18 miles northwest of the modern city of Tucson, they include rock which was formed more than 600 million years ago.

When the company first began working these deposits, there was a long ridge extending approximately 2000 feet from the east hill. Mining the minerals has changed this from a ridge to a pit, the floor of which is nearly 200 feet below the surrounding land surface.

The "twins" witnessed the coming of the Indians, the exploration and settlement of the Spaniards and the subsequent conflicts, which were to continue as citizens of the United States pushed ever farther Westward. In 1776 Tucson was established as a Spanish fort to



provide protection from the Indians, who were much more hostile than those found in California. Unlike California and the rest of Arizona, this territory did not become part of the United States as a result of the Mexican War in 1846. It was obtained as part of the Gadsden Purchase in 1853.



The twin peaks maintained a silent vigil over the landscape as human struggles went on around them and the forces of erosion worked on their surface. Although the men of California Portland Cement Company had been interested in an Arizona operation as early as the 1920's - it was not until the late 1940's that CPC men met this mountain with the full force of their knowledge, experience. Even then the forces of nature had to be taken into consideration. The cement plant was located about five miles from the deposit, due to the unpredictable nature of the Santa Cruz River. It would have been less expensive to locate the plant adjacent to the deposit, but it would also have required taking a chance that you would be cut off from the rest of the work, if the river washed out the access road.

Modernization and expansion of the plant between 1970 and 1972 included the installation of a covered conveyor belt 30" wide and just under four miles long, which took the rock from a crusher at the quarry along the side of the road and into the plant. Nature, however, finally played a cruel trick on the company planners. Rather than destroying the road from the quarry to the plant, it flooded





Over forty years passed between the time CPC employees inspected the Rillito site in 1934, and the completion of APC's precalciner on No. 4 kiln. In the intervening years the plant changed from a single stack reaching into the sky in 1949 to today's modern cement facility.



Telephone: 602/271-0069 **FAX:** 620/254-9027 **Postal Address:** 2400 N. Central Ave., Ste. 308, Phoenix, AZ 85004





General Information & Sales: <u>cstarkey@calportland.com</u> Customer Support: <u>swhitley@calportland.com</u> Web Designer: <u>msherwood@calportland.com</u>



Throughout our years we have been a major supplier of cement and concrete for the construction industry throughout the Southwestern United States. These are some of the projects that were built using Colton Cement, Arizona Cement and Concrete from Catalina Pacific Concrete



Los Angeles City Hall built in 1928 using Colton cement



Cathedral of Our Lady of the Angels - Los Angeles



Staples Center - Los Angeles.



San Diego's Convention Center



Cathedral of Our Lady of the Angels - Los Angeles



Westin Bonaventure Hotel - Los Angeles



Eastern Transportation Corridor Orange County, California



Mirage Hotel & Casino - Las Vegas





CPCC Import Terminal Wilmington, California



The California Portland Cement Company Import Terminal is located at Berth 191, Port of Los Angeles, Wilmington, California. Operations commenced on October 1987 (was idle 1993 through May 1997). A Flat Storage Warehouse is used for bulk cement storage and handling. Ship Unloading is done using Two (2) Fuller-Kovako Wheel-Mounted Ship Unloaders for discharging bulk cement. There are Three (3) Truck Scales, 70' each.



http://www.calportland.com/terminals/Wilmington/wilminport.htm

Building a Second Century of Value





Port of Los Angeles, Wilmington, California Manager: Pete Bulthuis



www. General Information: <u>pbulthuis@alliedcement.com</u> Employment Information: <u>jclemente@calportland.com</u> Sales: <u>rpatton@calportland.com</u> Customer Support: <u>kmcdonald@calportland.com</u> Web Designer: <u>msherwood@calportland.com</u>



THIS PAGE CURRENTLY UNDER CONSTRUCTION

California Portland Cement Company Northern California Cement Import and Distribution Terminal

> Port of Stockton Stockton, California



MSDS: Stockton Cement

Click here to see the raising of the dome



Stockton Transfer Terminal 2201 W. Washington St., 230 Port Road #3 Stockton, CA 95203 209/469-0109





General Information: <u>wburchett@calportland.com</u> Employment Information: <u>jclemente@calportland.com</u> Sales: <u>mdominisse@calportland.com</u>



Arizona Portland Cement Company



Rillito Cement Plant

Photos: Clockwise from Left:



- 1) University of Arizona football stadium,
- 2) Housing subdivision,
- 3) Ball Mill,
- 4) 26 Story office building



Clockwise From Upper Left: 1) New Ramps and Runways at Fort Huachuca.

2) Soil cement for river bank stabilization is scarred to present a natural look.

3) Concrete has long been used for roads and bridges, but modern design has greatly improved aesthetics.

4) Modern construction and architectural practices heavily rely on concrete and concrete products.

QUALITY UNSURPASSED

Arizona's increased cement consumption after World War II allowed California Portland Cement Company, the oldest cement company west of the Mississippi, to plan the construction of a new cement plant between Phoenix and Tucson. The Economic evaluation of a large limestone deposit northwest of Tucson led to a plant site at the town of Rillito. The railroad and a paved highway already went through the town, so the company built the plant there. The rock would have to be

Building a Second Century of Value

hauled across the Santa Cruz River from the quarry four miles south. Construction began in 1948 and the first cement was produced in December 1949. The new plant consisted of a long dry kiln (purchased used), with two raw mills, two finish mills, and three cement storage silos. In the 1950's the plant added two more kilns, two raw mills, four finish mills, and twenty cement silos.

Construction of a major plant expansion began in 1970. The new equipment came on line in 1972 and included a stateof-the art preheater kiln, a new crusher, raw mill, and rock stacker/ reclaimer building. An overland belt conveyor, the longest conveyor of its type in the world when built, carries the rock from the quarry to the plant. The D3 finish mill came on line in 1974 and in 1987 a new hydraulic roll press and a high efficiency separator were installed on the mill.

Arizona Portland converted the preheater to a precalciner in 1985. In 1990-92, equipment upgrades continued. During this time, Arizona Portland modernized all the preheater cyclone vessels, improved the calciner, installed an indirect coal firing system, and brought a new computer control system on line.

Arizona Portland continues searching for ways to manufacture cement more efficiently. Equipment upgrades and improvements now in the planning stage will provide the high quality cement Arizona needs as we enter the new century.

Throughout the state of Arizona, Arizona Portland Cement Company's products are used by the mining and construction industries. A major ingredient in ready-mix concrete, cement is also used in concrete productions such as block or pipe.



Material Safety Data Sheets

Rillito Portland Cement Tucson Flyash



"Fire in the hole!" A quarry blast safely brings down about 75,000 tons of limestone.

QUARRY AND CRUSHER

Everything starts in the quarry; almost all the cement raw materials come from here. The quarry is an open pit mining operation. It has the same drill, blast, and muck sequence as the large copper mines. Nine inch holes are drilled on eighteen foot centers. Prior to shooting, each hole is sampled and surveyed for quality control. Blasting agents are then loaded in each hole. Non-electric delays limit the blast to one hole at a time in order to improve fragmentation and reduce ground vibrations. Front end loaders dig the shot rock and load the trucks. The loaders provide a lot of blending capability because they can easily move along the rock faces selecting various grades of limestone and shale. Other materials required for the cement chemistry, such as iron or alumina, are also added at the quarry face. 85 to 100 ton capacity trucks haul the ore to the rotary impact crusher.

The crushing plant takes boulders as large as five feet in diameter and turns out a two and a half inch product size. A series of computer controlled vibrating feeders puts the rock on the overland belt conveyor system, transporting over 1,000 tons per hour to the cement plant four miles north. En route, the rock passes through a CrossBelt PGNAA analyzer which transmits the complete chemical analysis to the quarry supervisor.

RAW MATERIALS - BLENDING AND STORAGE

The overland belt conveyor delivers the rock to the Stacker/Reclaimer building. The stacker builds a 30,000 ton stockpile of layered rock. The reclaimer then comes along and digs the pile in bands perpendicular to the stacker layers. The Rillito plant achieves a turn-down ratio of 10:1, comparing the standard deviation of the chemistry going in to that coming out of

the pile.

MATERIAL BLENDING

The blended reclaimed rock fills three blending silos. Three other blending silos contain an alumina source, an iron source, and a high or low grade limestone. The laboratory controls these six feeders to fine tune the quality control targets for eight different oxides.

RAW FEED GRINDING

The raw mix is ground in a ball mill. Ball mills are large rotating drums protected with inside liners and about 35% filled with steel alloy balls. The D2 raw mill contains over 210 tons of balls. The grinding balls are sized from one and a half inches to three and a half inches. The mill can produce 200 tons per hour of raw mix powder, 80% of which will pass a 200 mesh sieve. Hot air from the kiln system dries the water out of the raw mix. Continuously operating samplers extract representative samples for analysis by the lab.

BLENDING SILOS

The raw mix is further blended in a specially designed homogenizing silo. Two additional silos, the kiln feed silos, receive the blended raw mix and store it for feed to the kiln system. Supplementary samples are taken as the raw mix leaves the kiln feed silos en route to the kiln.



Top: 100 ton quarry trucks are loaded by a 14 yard loader.

Bottom: A view inside the D2 raw mill. The mill is equipped with spiral liners.



Top: The kiln and calciner are the heart of the cement plant.

Bottom: The 3000 horsepower D2 raw mill dwarfs an operator.



PYRO PROCESSING

The kiln is the heart of the cement plant. The carefully prepared raw mix enters the kiln system at the top of the tower. The tower consists of a series of four cyclones. As the raw meal falls from one cyclone vessel to the next, the hot gas from the kiln causes the meal to get progressively hotter. It takes about one minute for the feed to go down the tower. During that time, it has been heated to about 1600 degrees F and the calcium carbonate (CaCO3) has been converted to lime (CaO). During the subsequent 25 minute journey down the kiln, the meal temperature exceeds 2700 degrees F. At that temperature another chemical reaction takes place producing calcium silicates and other cement minerals.

These new minerals form clinker balls. About half the fuel required for this process is put in the calciner at the base of the tower. The other half goes in at the front of the kiln and produces a long hot flame visible from the kiln hood. The clinker balls fall out of the kiln into the cooler. The balls then form a bed of material on the top of perforated steel grates which slowly travel back and forth, pushing

the clinker along. Seven cooler blowers pull in outside air and force it through the perforated grates and clinker bed. The outside air cools the clinker and is itself heated up. The hot air is then used in the kiln and calciner for combustion. The excess air required to cool the clinker, but not needed for combustion, goes through a fiber- glass fabric baghouse filter to remove the dust before going out the cooler stack. The gases from the tower go first through the raw mill to dry out the

moisture in the raw mix. Then they are ducted to another fiberglass baghouse for environmental control prior to exiting out the stack at that end of the kiln system.



Arizona Portland Cement's Employees are its most valuable resource. our employees average 17 years of seniority.



Rail cars Full of coal from New Mexico await unloading.

CEMENT SHIPPING

The Rillito plant has two certified truck loadout scales. The computer controlled bulk load system coordinates with the laboratory to draw cement from the silos filling the shipping bins. and subsequently cement trucks. Cement trucks, not to be confused with concrete mixers, are eighteen wheeled highway trucks with about 25 tons of cement capacity.

OUALITY CONTROL

Throughout the process, from the quarry blastholes, the crushed rock, the raw mills, the kiln feed, the clinker cooler, the cement mills, and finally the cement trucks, the laboratory receives samples and performs analyses to ensure proper quality control. The cement plant operates continuously 24 hours a day, seven days a week. Similarly, the laboratory is staffed around the clock. The modern cement plant requires smooth control in order to operate at its optimum level. As importantly, smooth operations allow Arizona Portland Cement to provide our customers with reliable, consistent cement.

PROCESS CONTROL

A distributed computer control system allows one supervisor to control the entire process from the Central Control Building. The system performs both analog and digital control. Digital control includes items such as motor starts and stops, interlocking, and alarming. Analog controls include instrumentation such as thermocouples or pressure taps and PID loops which automatically hold a process variable to a setpoint. The custom programming utilizes both the digital and the analog I/O for optimizing the process control and for alarms. Over 5000 I/O points are monitored by the process control computer. Additionally, the Rillito plant has an expert system, or fuzzy logic, for even further automatic control.

MATERIAL HANDLING

Manufacturing portland cement requires importing numerous materials to the plant. Coal, alumina, and iron materials normally arrive by rail while gypsum and some other materials may be trucked into Rillito.

ENVIRONMENTAL CONTROLS



In addition to rigorously following all federal, state and county regulations, Arizona Portland Cement is a member of Climate Wise, a volunteer group of companies working with the United States Environmental Protection Agency to reduce greenhouse gases. Arizona Portland believes in recycling and waste minimization.

By 1996, the Rillito plant achieved status as a conditionally exempt small quantity generator of hazardous waste, reducing hazardous waste generation by 99.5%

Furthermore, Arizona Portland Cement has begun a program of recycling non-hazardous industrial byproducts which otherwise would go to a landfill. After careful testing and analysis, materials can be approved for use as raw materials at the cement plant replacing mined ores such as bauxite or clay. Other non-hazardous materials such as used tires or on-specification used oil can be recycled for their fuel value. Comprehensive testing has demonstrated that use of these fuels does not noticeably change the emissions characteristics of the kiln system.



<u>Top Left:</u> The modern cement loadout system allows rapid truck turn-arounds.

<u>Top Right:</u> Quality control testing throughout the process ensures a reliable product.

Bottom Left: The distributed control computer system allows one supervisor to control the entire plant. Over 7 miles of fiber optic cable are used to transmit data.

Bottom Right: Gypsum is inter-ground with clinker to control setting time of concrete.

11115 Casa Grande Hwy P.O. Box 338 Rillito, Arizona 85654 520/682-2221 Manager: Dave Bittel

For CEMENT SALES Information and/or For TECHNICAL SERVICES call 602/271-0069





General Information: <u>dbittel@calportland.com</u> Employment Information: <u>jclemente@calportland.com</u> Sales: <u>cstarkey@calportland.com</u> Customer Support: <u>swhitley@calportland.com</u> Web Designer: <u>msherwood@calportland.com</u>



CPC Terminal - Las Vegas

California Portland Cement Company has constructed a transfer terminal in the City of North Las Vegas, Nevada to service the greater Las Vegas area. The terminal mainly services the Clark County area that includes Las Vegas and surrounding cities. It has the potential to reach all of Southern Nevada as well as Southern Utah. Clark County, Nevada has been a CPCC market area for over 40 years, and the rate of growth has been extremely high for the past several years. Southern Nevada is currently one of the fastest growing areas in the United States and is expected to continue this growth for the next 20 years. A new major highway and some large city development projects with associated infrastructures are already approved for construction within 15 miles



of the terminal. Most of the cement for the Clark County market comes from Southern California. Most of the CPCC cement comes from the Mojave Plant that is about 200 miles from Las Vegas. Before construction of this terminal, delivery was sometimes impeded by the availability of trucks. The presence of the terminal now provides CPCC the opportunity to better service our customers and the general market.



The terminal is located in the City of North Las Vegas on property owned by Pan Western Corporation, a trucking company. CPCC designed and constructed the terminal and operation began at the terminal in October 1999. Pan Western hauls the cement from the terminal to customer sites. CPCC currently leases about 150 rail cars to move product throughout its various facilities. A dedicated double rail spur at the terminal accommodates up to 30 loaded cars by simply feeding the cars from one spur to the other. The terminal is designed to off load 100 tons rail cars at a rate of 200 tons per hour into three bolted steel silos using a pneumatic conveyor system. The three silos are identical in size and each

have a cement capacity of 1,200 tons. They are painted tan color to soften the visual impact on surrounding developments. The center silo can be discharged to either of two spouts and can be used for alternate products. The product is conveyed from the silo bin bottoms to the loading spouts by airslides and then into trucks with capacities of up to 50 tons at a rate of 450 tons per hour. The 130 feet truck scale is actually split into two 65 feet scales that can work independently after the tare weight is taken. This allows both trailers to be loaded simultaneously. The arrangement is expected to minimize truck movement during filling and make filling as rapid as possible.

2017 2017 2017	



The control building is a single story concrete block building. The building consists of a motor control center room, an operator control panel, the manager's office, an equipment room, and a rest room. The operator has a camera to view each of the loading spouts. The control building is located between the silos and the railroad tracks. The terminal can be expanded in the future as growth and conditions require.



Material Safety Data Sheet

Mojave Portland Cement



Las Vegas Transfer Terminal 4928 Donovan Way North Las Vegas, NV 89081 702/632-0126



General Information:jpadilla@calportland.com Employment Information:jclemente@calportland.com Purchasing Director:tlynard@calportland.com Cement Sales: jmettler@calportland.com Customer Support: kmcdonald@calportland.com Web Designer: msherwood@calportland.com









Skirball Cultural Conter

EXEMPTION LUMERAL SUPEREF This all cast in place project features: dramatic architecture, hidden commands and hish gardens. The circular roof design makes a dramatic statement in the hills of the Santa Monica Monitains welcoming visitors of all cultures and religions.



Disney Animation Building

A 4-story, 249,000 sq. ft. computer animation studio and office building. The studio's unique an intercture features a 43-foot high soncaret's hat over the front entrance and a colorful film strip campy, bordering the rooffop.



Hollywood-Highland This 469,000 sq. fi, retail & entortainment center is the home of the 140,000 sq. fi, Kodsk Theatre - home of the Academy Awards. Below the building is a 5-level, 300-car subtertainean parking garage.



Staples Center Arena

This \$375 million arena is bonic to the L.A. Lakers. Clippers and Kings. The 960,000 sq. fi. project was completed in just 18 months. This 21,000-seat arena has become the backbone of downtown redevelopment.



Arrowhead Pond Arena

Adjacent to the 57 Freeway is Anaheim's \$103 million sports arem. The "Pond", as it has come to be known, is home to the Mighty Ducks of Anaheim and hosts basketball, concerts, ice skating and other major entertainment events



Getty Center Museum

This S1 billion project site itep [10] acres overlooking LA and the Pacific Coast CPC delivered 300,000 cubic yards of concette over eight years to the project. The 946,000 vo. (r. campus is needed for its architecture, gardens, views and magnificent works of art.



Hollywood Water Quality Improvement Tanks This project consists of two 30-million gallon prostressed concrete ranks. The ranks will be underground along with a 5000 ft long. 30 ft, diameter trained. The site required 300,000 cubic yards of excavation and 100,000 cubic yards of concrete.



Cathedral of Our Lady of The Angels The first Catholic cathedral built in North America in over 100 years, it consists of a 160,000 sq fit cathedral and a 600-space park-ing structure. The cathedral, which seats 3000, has four foot thick concrete walk made from white cement imported from Demmark.



Disneyland California Adventure

California Adventure is Disney's new \$1.4 billion dollar resort. The resort sits on 55 acres adjacent to the original park built in the mid-50s. Included in the concrete supplied by CPC is most of the colored and textured decorative flatwork.



Eastern Transportation Corridor CPC provided the majority of the 450,000 cubic yards of con-crete used in the project. San Joaquin Hills Corridor

Provides an alternative to local freeways and trans 30 minutes from the commute between Los Angles and Oratoge counties.

MUMORINE ART ANT ANT ANT ANT ANT ANT ANT ANT ANT AN	ersion Factors Jalues in the Ca	for Commonly Icrete Industry.		Wall Grout Indard Two	; Volume 5 Cell Bloc	
Area 1 square yard	0.836 1	square meter (m°)	Grouted	Cu. Yds*	Cu.Yds per*	Block Per
1 square yaru 1 square foot	0.030 i 0.092 903 4ETM	1497 C	Celis	of Grout	100 Block	Cu. Yard
1 square inch	645.16E	square milimeter (mm ²)	Vert. Steel Spacing	Per 100 Sq. Ft. of Well	(8° High) (16° Long)	(8° High) (16° Long)
Length			6* THICKWALLS			
1 inch	25.4E	millimeter (nm)	All Cells Filled	0.93	0.83	120
1 foot	.03048E	meter (m)	16° 0.C.	0.55	0.49	205
1 yard	0.914 4E	meter (m)	24° 0.C.	0.42	0.37	270
1 mile	1.609 344	kilometer (km)	32" 0.C.	0.35	0.31	320
			40" O.C.	0.31	0.28	360
Mass			48° 0.C.	0.28	0.25	396
1 pound	0.453 592 4	kilogrærn (kg)	10 0.0.	A LET IN THE REP	6720	
Mass per volume	1		6" THICKWALLS			
1 pound/	16.018 846	kilogram per cubic meter	All Cells Filled	1.12	1.00	100
cubic foot		(kg/m²)	16° O.C.	0.65	0.58	171
1 pound/	0.593 276 4	kilogrom per cubic meter	24* 0.C.	0.50	0.44	552
cubic yard		(kg/m²)	32° 0.0.	0.43	0.38	267
1 pound/gallon	0.119 926 4	kilogram per liter (kg/L)	40° 0.0.	0.37	0.33	300
			48° O.C.	0.59	0.30	330
Pressure (stress	a 6.894 757	kilooascal (kPa)				
1 pound/ souare inch	0.894 757	KHODOSCEI (KMB)	10" THICKWALLS	i		
1 pound/	47.880 26	pascal (Pa)	All Cells Filled	1.38	1.23	80
square foot	47.136A 400	gaussian in us	16° O.C.	0.82	0.73	137
artoara rest			24° O.C.	0.63	0.56	180
Temperature			32° 0.C.	0.53	0.47	214
Fehrenheit	I'F -321/1.8	Celsius ('Cl	40° 0.C.	0.47	0.42	240
			48° D.C.	0.43	0.38	264
Volume		Status, a sin				
1 fluid ounce	29,573,53	miliiter (ml.)	12" THICKWALLS			
1 cubic yard	0.764 554 9	cubic meter (m ²)	All Cells Filled	1.73	1.54	65
1 cubic foot	0.028 316 85	cubic meter (m²) Ster (L)	16" O.C.	- 1.01	0.90	111
1 cubic foot	28.316 85 3.785 412	iter (L)	24° 0.C.	0.76	0.68	146
1 gallon	3.700 418	Rigs (C)	35. O.C	0.64	0.57	174
Volume ner mass	8 Volume per volui	nia	40° 0.C.	0.57	0.51	195
1 fluid ounce/	38.680 71	milliter per cubic meter	49' O.C.	0.53	0.47	215
cubic vard	and the second s	(mL/m ⁻)				
1 fluid ounce/	65.198 47	mitiliter per 100 kilogram			·	
100 pounds		(mL/100 kg)	1			
1 gellan/	4.951 132 III	ter per cubic meter (L/m³)				
cubic yard			1			
			1			

Area per Volume (coverage)

⁸E indicates an exact conversion

1 square foot/gallon 0.024 54 square metar par liter (m*A.)

· For open end block add 10% more grout.

· For slumped block deduct 5% grout.

· Horizontal bond beams assumed spaced 4' O.C. * A 3% allowance has been included for loss and job conditions.

TANK VOLUMES

Size Tank

Amount Required to Fill Tank

Gallons	Cubic Feet	Cubic Yards Concrete	Sand, Lbs. Dry, Loose	Sand, Tons Dry Loose	Sand, Lbs. Wet Loose	Sand, Tons Wet Loase
100	13.4	.5	1,313	.66	1,112	.56
500	26.7	1.0	2,617	1.31	2,216	1.11
300	40.1	1.5	3,930	1.97	3,328	1.66
400	53.5	2.0	5,243	2.62	4,441	5.55
500	66.9	2.5	6,546	3.27	5,544	2.77
600	80.2	3.0	7,880	3.93	6,657	3.33
700	93.6	3.5	9,173	4.59	7,769	3.88
800	107.0	4.0	10,486	5.24	8,881	4.44
900	120.3	4.5	11,789	5.89	9,985	4.99
1000	133.7	5.0	13,103	6.55	11,097	5.65

Notes: Dry loose weight of sand used - 99 lbs. Wet loose weight of sand used - 83 lbs (moisture - 6.8% surface) "If water is added to truck of sand in placing in tank, add approximately 10% to amount of sand.

CATALINA PACIFIC CONCRETE TECHNICAL SERVICES

Q UICK MIX DESIGN SUBMITTAL IS JUST ONE OF THE ADVANTAGES OF USING CATALI-NA PACIFIC CONCRETE. **CPC** IS APPROVED TO ISSUE MIX DESIGNS IN THE CITY OF LOS ANGELES.

C ATALINA PACIFIC CONCRETE'S TECHNICAL SERVICES DEPARTMENT IS ACTIVE IN ALL FACETS OF CONCRETE CONSTRUCTION. IF DESIRED, WE OFFER INPUT AND REVIEW ON SPECIFICATIONS (PUBLIC & PRIVATE) FOR CUSTOMER SUPPORT AND SUBMITTAL ACCEPTANCE AND ASSIST WITH QUALITY CONTROL ON SPECIALTY PROJECTS.

CONCRETE TESTING	AGGREGATE TESTING
CGNGRETETETESTING CYLINDERS ICOMPRESSIVE STRENGTHI CYLINDER CAPPING TRIAL BATCHING SHRINKAGE BARS SCHMIDT REBOUND HAMMERS SCHMIDT REBOUND HAMMERS AIR METERING -GRAVIMETRIC -VOLUMETRIC -PRESSURE MOBILE ADMIXTURE DISPENSER SET TIMES SLUMP TESTING SPECIFIC GRAVITY ABSORPTION TESTING UNIT WEIGHT YIELD CURING SAMPLING	AGGREGATE TESTING • RO-TAP GILSON • SHAKER SIEVE • SAND-EQUIVALENT TESTING • SPLITTERS • MOISTURE OVENS • UNIT WEIGHT • PLATFORM SCALES • L.A. RATTLER (ABRASION/IMPACT) • SPEEDY MOISTURE METERS • SPECIFIC GRAVITY
CYLINDER COMPRESSION MACHINE INDUSTRY ASSOCIATIONS • CCRL • NRMCA	RESPONSIBILITIES MIX DESIGNS REVIEW OUTSIDE MIX DESIGNS REVIEW JOB SPECIFICATIONS BATCHPLANT QC ON SPECIALTY
• ACI • PCA • SORMCA • ACRI	PROJECTS • JOBSITE QC ON SPECIALTY PROJECTS





Los Angeles Region

"There Is A Difference" (click here to see our locations)



Catalina Pacific Concrete doesn't manufacture cement, it delivers concrete. Ready mix trucks leave 6 sites throughout the Los Angeles Region, and 3 sites in the Orange County Region, of Southern California on their daily delivery routes. They represent the youngest branch of the California Portland Cement family.

Catalina Pacific Concrete works closely with its customers and engineers from commercial testing laboratories to meet the specific needs of each phase of construction projects. Concrete is tested at the job site by inspectors to assure the correct slump has been achieved. Strength test results are compared with the design

strength, and the mix design for the concrete is modified as necessary. To help guarantee that strength requirements are met, Catalina Pacific uses a computer program to generate the correct mixture designs and batching proportions are automatically transferred to the computer used for dispatching ready mix deliveries.

Catalina Pacific's commitment to quality concrete can be seen by a visit to its fullyequipped concrete laboratory. Test batches of concrete are prepared in the laboratory to evaluate new mix designs and to monitor the performance of cements, aggregates, and admixtures (additives). The laboratory staff includes technicians certified by the American Concrete Institute and senior personnel who are certified Concrete Technologists, adhering to National Ready Mix Concrete Association standards.



In addition to conducting quality control testing on raw materials, the laboratory staff and a start provides on-the-job quality control during concrete delivery, and the lab works closely with the batch plants to



trol during concrete delivery, and the lab works closely with the batch plants to continuously improve concrete quality.

Catalina Pacific can claim a distinguished heritage. It is a new corporation with a notable history. It holds a major portion of the business in its market area, operates over 150 ready mix trucks from the 9 Southern California sites. It is a fairly new company built upon a firm foundation in the industry.

Azusa Concrete Laboratory 1030 W. Gladstone Street, Azusa, CA 91702 626/812-6411

Azusa Ready Mix Plant & Sales Office 1030 W. Gladstone St., Azusa, CA 91702 626/334-3226

> El Segundo Batch Plant 339 S. Aviation Blvd., El Segundo, CA 90245

West Los Angeles Batch Plant 11122 W. Pico Blvd. Los Angeles, CA 90064 Alameda Batch Plant 862 E. 27th St., Alameda, CA 90058

Canoga Park Batch Plant 7001 Deering Ave., Canoga Park, CA 91304

Sun Valley Batch Plant 8981 Bradley Ave., Sun Valley, CA 91352

Wilmington Batch Plant 1026 Blinn St., Wilmington, CA 90744

Material Safety Data Sheets

Ready Mix Concrete

Sand & Gravel

<u>Corporate Office</u> 2025 East Financial Way, Ste. 200 Glendora, CA 91741-4692

PO Box 5025, Glendora, CA 91740-0885 626/852-6200,



Concrete Sales: <u>wklawitter@calportland.com</u> Operations: <u>pmoore@calportland.com</u> Technical Support: <u>esparks@calportland.com</u> Employment Information: <u>jclemente@calportland.com</u> Web Designer: <u>msherwood@calportland.com</u>



Mobility is a way of life in California. So it's only fitting that when a new path needs to be cleared and paved, or an earthquake-damaged roadway requires an emergency repair or rebuilding, construction interests can mobilize in overdrive.

Catalina Pacific Concrete, a subsidiary of California Portland Cement Co., has constructed a 200,000-yd/year batch plant. Permitting and construction of this plant took only 12 months to complete.

The need arose for this modern Batch Plant to come on line due to the major construction project of the Eastern Transportation Corridor - the 27 mile link in Orange County's rapidly unfolding toll road system. Ramps, foundations, bridges and other structures for the \$700-million+ project will consume in excess of 400,000 yards of concrete - and require about 60 million yards of earthwork through December 1999.



Catalina Pacific/Irvine Lake Batch Plant sits on four acres in the valley near Irvine Lake in Orange County. It's fleet consists of 80 rear discharge mixers. This is California's first central mix batch plant built to revised seismic standards. The state rewrote building codes following the October 1989 Loma Prieta and January 1994 Northridge earthquakes.

Previous codes had reflected design recommendations for structures built in an area with a seismic Zone 4 rating, designated by the Uniform Building Code and National Earthquake Hazard Reduction Program. Tightened post-1994 standards resulted in an approximate doubling of the amount of extra steel required to build a plant to code. To meet California's tougher standards, the Irvine

Lake structure is built with about 60 percent more material than would be required elsewhere. Concentrations of additional steel and cross bracing are greatest below the silos and aggregate bins. In addition to increased



Building a Second Century of Value

above-grade provisions, the batch plant was built with a hefty foundation that consumed nearly 300 years of material, which was hauled from Catalina Pacific's Irvine Batch Plant which is located about 12 miles away from Irvine Lake. Reinforcement volume and base plate sizing prompted placing crews to compare the batch plant foundation to one for a 10-12 story building.

Material Safety Data Sheets

Ready Mix Concrete

Sand & Gravel

See Also:

The Eastern Tollroad - A Design/Build Success Story

Irvine Batch Plant 16282 Construction Circle East Irvine, CA 92664 949-552-9674

Orange Batch Plant 5305 Santiago Canyon Rd. Silverado Canyon, CA 92676 714/649-0415

San Juan Capistrano Sales Office & Batch Plant 31511 Ortega Highway San Juan Capistrano, CA 92675 714/728-0448





General Information: wklawitter@calportland.com Operations: pmoore@calportland.com Employment Information: jclemente@calportland.com Concrete Sales: jwiersma@calportland.com Technical Support:esparks@calportland.com Web Designer: msherwood@calportland.com