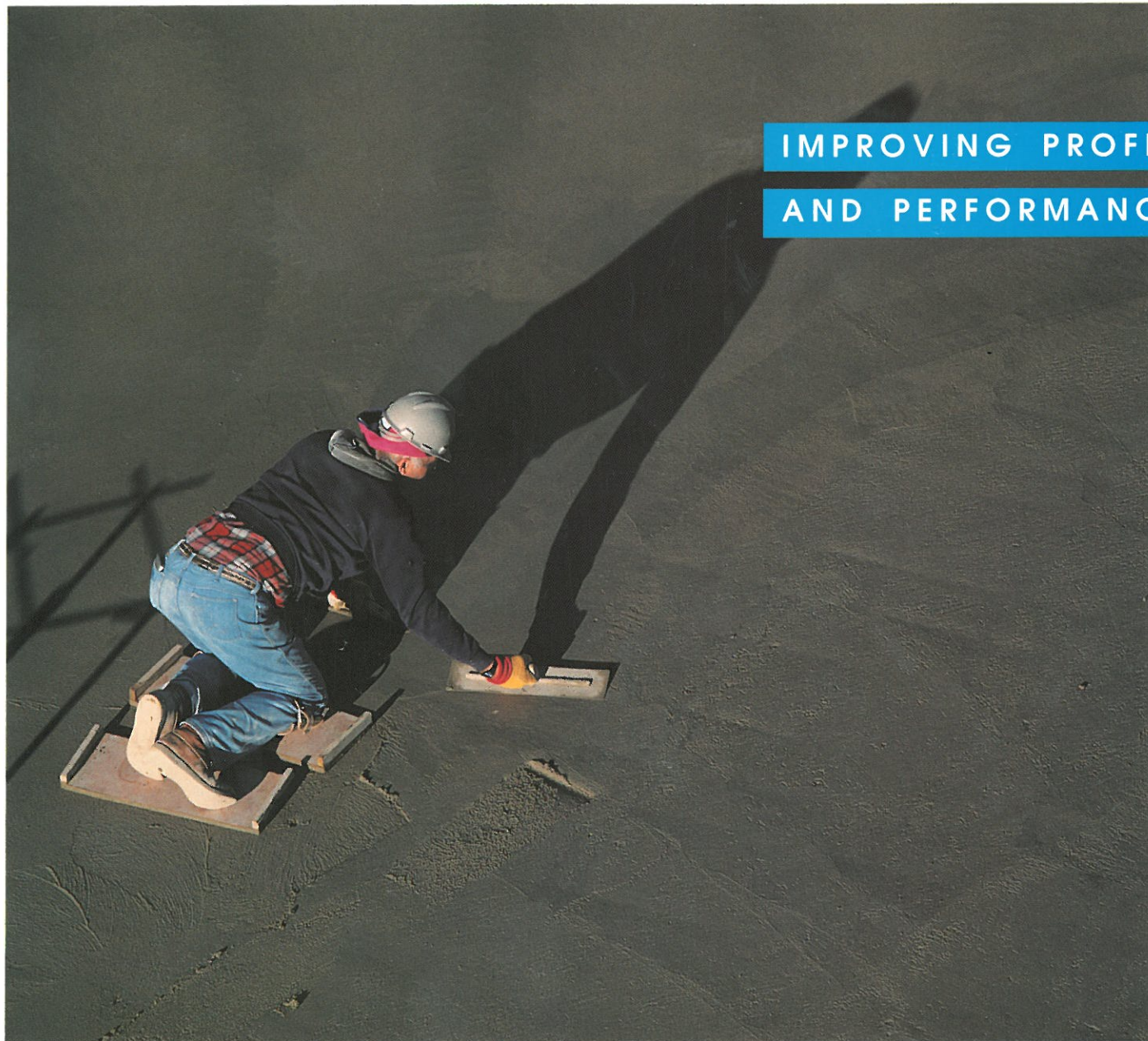


READY-MIXED

CONCRETE

IMPROVING PROFITS

AND PERFORMANCE



CALCIUM CHLORIDE . . . ENHANCED ALL-WEATHER SETTING



TETRA

IMPROVING PROFITS AND PERFORMANCE

The versatility of portland cement concrete as a construction material means that it is often specified in jobs which require enhanced performance characteristics.

These include projects which demand high early strength and near-term load bearing capacity; complex jobs, with extensive form-work and high labor costs; and cold weather jobs, where fast setting can prevent damage to concrete caused by freezing temperatures.

Manufacturers of ready-mixed concrete have used calcium chloride for over 50 years to give their contracting customers the performance they want, and the durable, quality product they require.

Ready-mixed concrete containing calcium chloride offers significant economic benefits to concrete contractors, reducing costs, and improving their profits as well as their performance.

The primary benefit of calcium chloride in concrete is an accelerated rate of hydration for cement.

This allows a significant reduction in setting time, rapid attainment of early strength and easier protection of freshly placed concrete in cold weather.

Cool Weather Concreting

Anytime the temperature drops below 70 degrees, the setting of ready-mixed concrete slows down. This effect is most significant in the 30° to 50° temperature range. The rapid setting offered by the addition of calcium chloride to ready-mixed concrete allows concrete contractors to continue to work effectively into the fall and winter months.

In cool and cold weather concreting applications, calcium chloride can be used to reduce setting times by as much as *two-thirds*. A 2% admixture of calcium chloride at 50 degrees will improve setting times to that attainable at 70 degrees without calcium chloride.

This rapid setting can be critical when there is a chance that temperatures may drop below freezing. Calcium chloride accelerates the rate of hydration of freshly placed concrete and lowers its free water content faster.

This allows concrete to escape potential freeze damage in a matter of days, as opposed to the weeks it can take normally. And it minimizes the costly precautions required to protect freshly placed concrete from serious freeze damage.

High Early Strength

In applications where time is of the essence, such as foundations for equipment or emergency patching of pavement, the addition of calcium chloride to ready-mixed concrete can reduce the waiting-period before surfaces can bear loads.

Tests have shown that calcium chloride ready-mixed concrete develops 3-day strength in one day; 7-day strength in 3 days and normal 28 day strength in just one week at normal ambient temperatures.

Quality & Economy

Calcium chloride is essential to maintaining quality and profitability in construction projects. Calcium chloride maintains workability in concrete with reduced water usage.

Since the amount of water used is critical to final strength and durability, ready-mixed concrete containing calcium chloride will have increased strength at lower material and labor costs.

In addition, faster setting means that manpower and labor hours can be reduced. And the number of forms required for a project can be minimized, since they can be re-used faster at the job-site.

CALCIUM CHLORIDE: FIELD PROVEN . . . ECONOMICAL

Calcium chloride is the number one chemical admixture for accelerating the setting of ready-mixed concrete. Ready-mixed manufacturers rely on calcium chloride to assure their customers of a product which will meet the need for economy and performance.

No other accelerator has the track record of calcium chloride. You can count on the same performance, day in and day out. In addition, calcium chloride is *the* most cost-effective performance material available today for reducing concrete setting times.

High Quality

TETRA SUPERSET™ Liquid Calcium Chloride meets and exceeds ASTM D-98 specifications for use in portland cement and other hydraulic cement concretes. In fact, SUPERSET is the highest purity product manufactured in the United States today.

All TETRA's liquid calcium chloride products have extremely low levels of magnesium and total alkali chloride impurities — better than the ASTM D-98 specifications.

Ready Availability

TETRA Chemicals' regionalized plants and local distribution network mean that SUPERSET Liquid Calcium Chloride is there when you need it, to make sure that your ready-mixed operation is running on-schedule and that your contracting customers get their deliveries on time.

Technical Assistance

TETRA Chemicals Technical Specialists and TETRA's Applicators and Distributors are ready to answer your questions on how best to utilize calcium chloride in ready-mixed concrete manufacture. TETRA's technical support line operates 24 hours a day, 365 days a year.

Calcium Chloride Application Rates as a 2% Admixture*

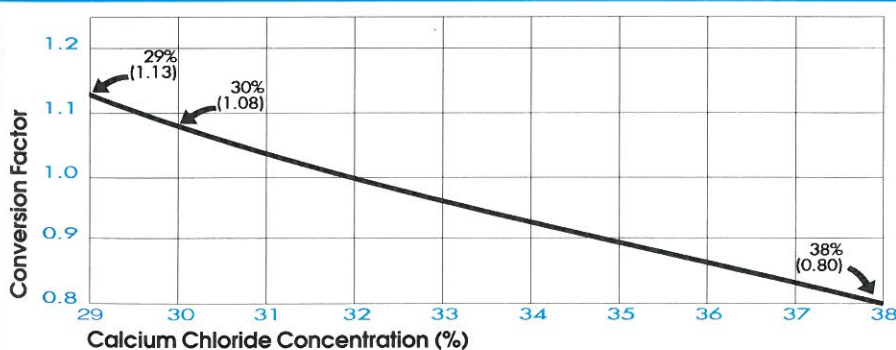
Gallons of Calcium Chloride Solution (32%) Per Batch of Concrete

Cubic Yards per Batch	Pounds Cement Per Cubic Yard Concrete						
	400	450	500	550	600	650	700
1.0	1.8	2.0	2.2	2.4	2.7	2.9	3.1
1.5	2.6	3.0	3.3	3.6	4.0	4.3	4.6
2.0	3.5	4.0	4.4	4.9	5.3	5.7	6.2
2.5	4.4	5.0	5.5	6.1	6.6	7.2	7.7
3.0	5.3	6.0	6.6	7.3	8.0	8.6	9.3
3.5	6.2	7.0	7.7	8.5	9.3	10.0	10.8
4.0	7.1	8.0	8.8	9.7	10.6	11.5	12.4
4.5	8.0	9.0	9.9	10.9	11.9	12.9	13.9
5.0	8.8	9.9	11.0	12.2	13.3	14.4	15.5
5.5	9.7	10.9	12.2	13.4	14.6	15.8	17.0
6.0	10.6	11.9	13.3	14.6	15.9	17.2	18.6
6.5	11.5	12.9	14.4	15.8	17.2	18.7	20.1
7.0	12.4	13.9	15.5	17.0	18.6	20.1	21.6

*For 1% Admixture, divide numbers by 2

Converting for Different Concentrations

(Multiply the Information in the table by the conversion factors below to determine the rate of addition at any concentration)



Example: 21.6 gal. of CaCl₂ (32%) x 1.13 = 24.5 gal. CaCl₂ (29%)