INFORMATION ON CURING RENDER DURING DRY WEATHER

During cool, dry weather, Rockcote often receives feedback that render can dry soft and powdery. Before concluding that something is wrong with the render, we would like to offer some information to our customers.

To form concrete, 3 components are required:

Cement + Sand + Water = Concrete

It is a common misconception that water is used simply to mix the concrete and when it dries the concrete should be hard. In actual fact however, water is required along with the cement and sand to **form** concrete. During the mixing process, the addition of water causes a chemical reaction to occur. This is referred to as 'hydration'. The rest of the water is then lost to the air via drying.

The formation of concrete takes time. Furthermore, it takes around 28 days for concrete to fully harden. Assuming it has appropriate moisture, concrete takes about 7 days to reach 80% of strength at 25C (explaining why you can't drive on a new concrete driveway for a week!) At low temperatures the initial setting of concrete is considerably slower; at 5C it takes 5 days to achieve the same strength as 1 day at 40C.

So what happens in dry weather?

- Walls draw the moisture from the render more quickly
- The air will dry the render quickly, especially when combined with windy conditions (a heavy dew overnight will assist in hydration, but in dry and windy conditions this does not occur.)

So as you can see from the above, in cold, dry conditions the cement curing process is much slower. As a result, it typically runs out of water before it hardens even if the same amount of time was suitable in warmer summer conditions.

FAQS

How do I tell if I have a product fault or it is due to Hydration?
Spray a heavy mist over most of the wall with water, ensure the render is wet, and leave overnight. Check the render after 24 hours and it should be harder than the area not sprayed. Repeat the process of spraying with water to continue hardening.

The other way is to see if exposed areas (northern or western walls) are softer than southern walls.

Why can't Rockcote make a product to cater for these conditions?
Rockcote uses technology that helps the cement render retain water; however adding too much can cause issues with the render hanging too long as well as issues with workability of the render. Additionally, Rockcote does not change it's cement render formulation between summer and winter. This is because it's products are used throughout a wide variety of geographical locations and this adjustment can not be efficiently controlled.

How can I overcome these issues?

Wet down masonry walls with low moisture or high suction (and consider using a Keycote slurry on walls with very high or variable suction). Always wait for sheen to reduce before rendering. If the cement render looks dry upon completion, give it a heavy mist of water (may have to repeat the following day).