



Innovations that work.™

ACN 109 200 900

AUSTRALIAN SECURITIES EXCHANGE ANNOUNCEMENT

6 August 2025

EdenCrete® - 4th Yearly Update - Colorado I-70 Vail Pass

Whilst the official Colorado Department of Transportation (CDOT) trial ended in 2023 after 3 years (2 winters), photographs taken by Eden after both the 3rd and 4th years of service, show that the EdenCrete enriched concrete continues to show considerably less wear, after being subjected to virtually identical conditions, compared with both the standard Portland cement concrete reference and the silica fume enhanced concrete.

A summary of Eden's recent observations, which are evident in the attached photos, is:

- The standard Reference concrete is apparently in the worst condition with new cracks and pitting.
- The Silica Fume concrete is also badly cracked, and the first 20 feet (6m) of the end section was replaced with asphalt because of unsafe road conditions and panels at the beginning have been replaced.
- The EdenCrete looks very good by comparison but has slightly cracked in one middle spot, a corner crack, and toward the end in a transverse crack approximately 8' (≈2.5 m) long.

These recent photos were taken after the fourth year of service, with each of the three concrete sections being photographed at the start, in the middle, and at the end of each trial section, with the order of the photos for each section being:

- the EdenCrete concrete is first,
- the reference concrete is second and
- the silica fume concrete is third.

Beginning Section

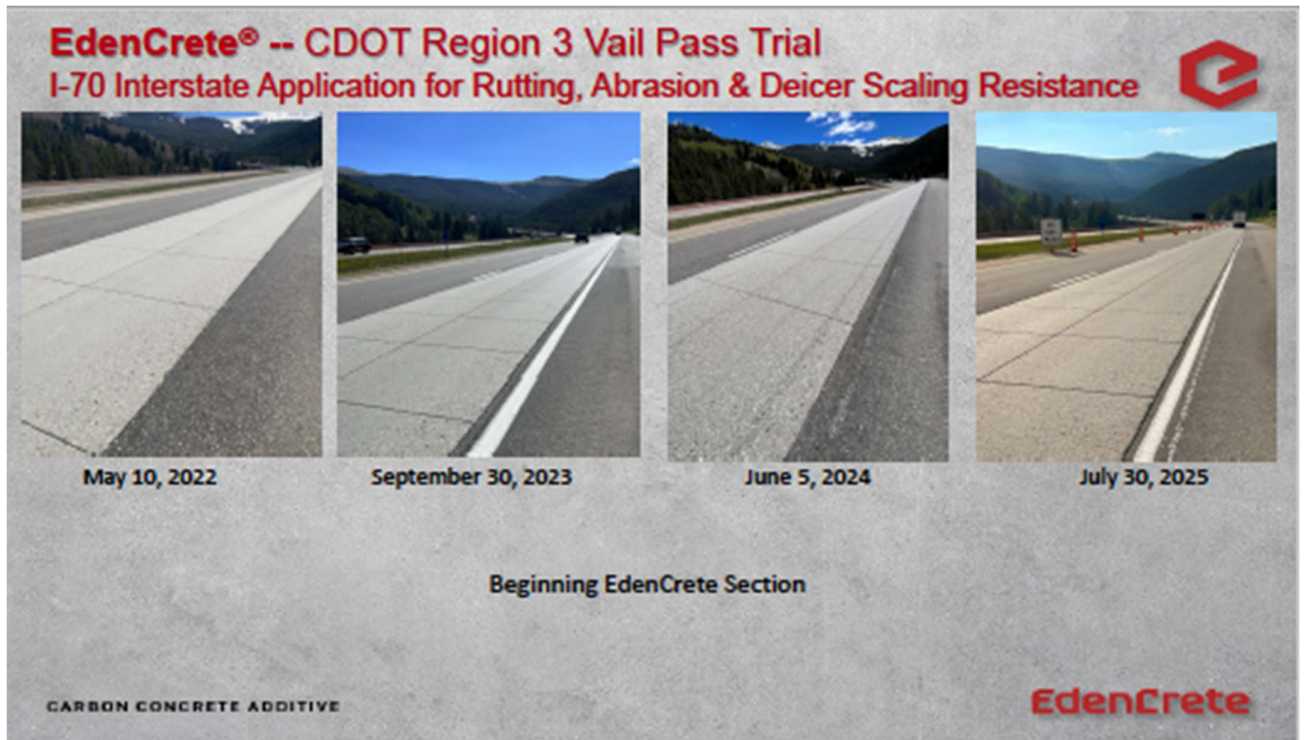


Figure 1. EdenCrete enriched concrete – Beginning Section

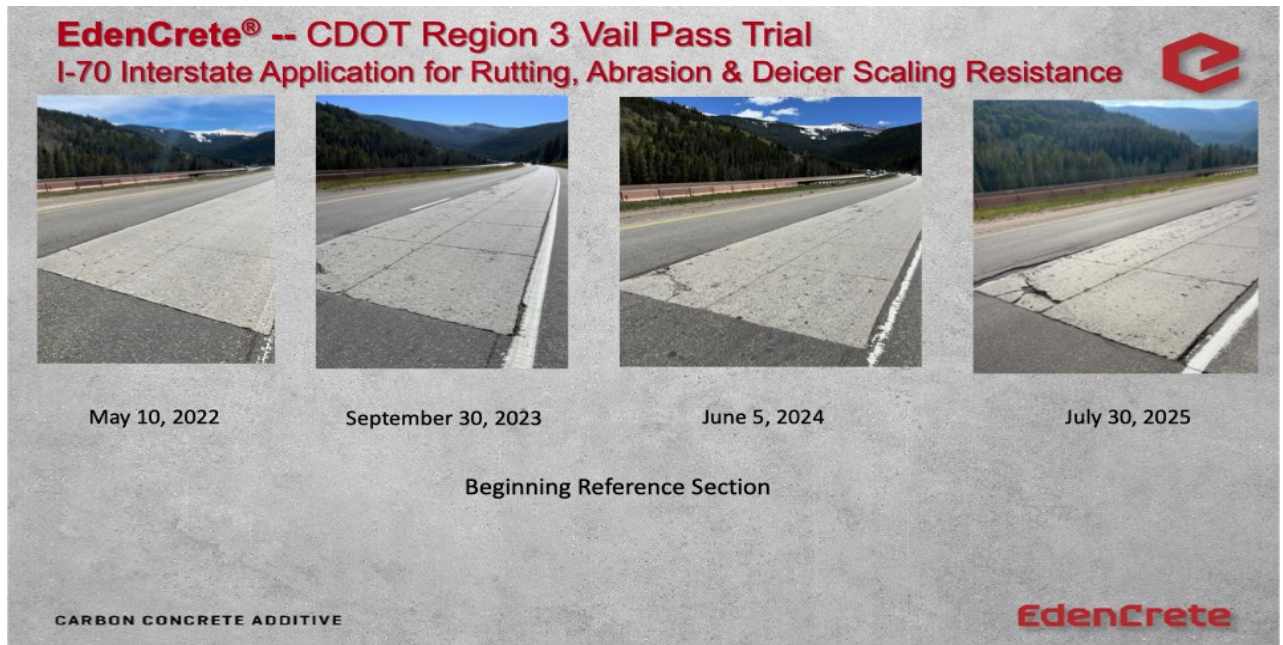


Figure 2. Standard Portland concrete reference – Beginning Section



Figure 3. Silica Fume concrete – Beginning Section (2 panels at the start replaced with bitumen to remove safety hazard).

Middle Section



Figure 4. EdenCrete enriched concrete – Middle Section

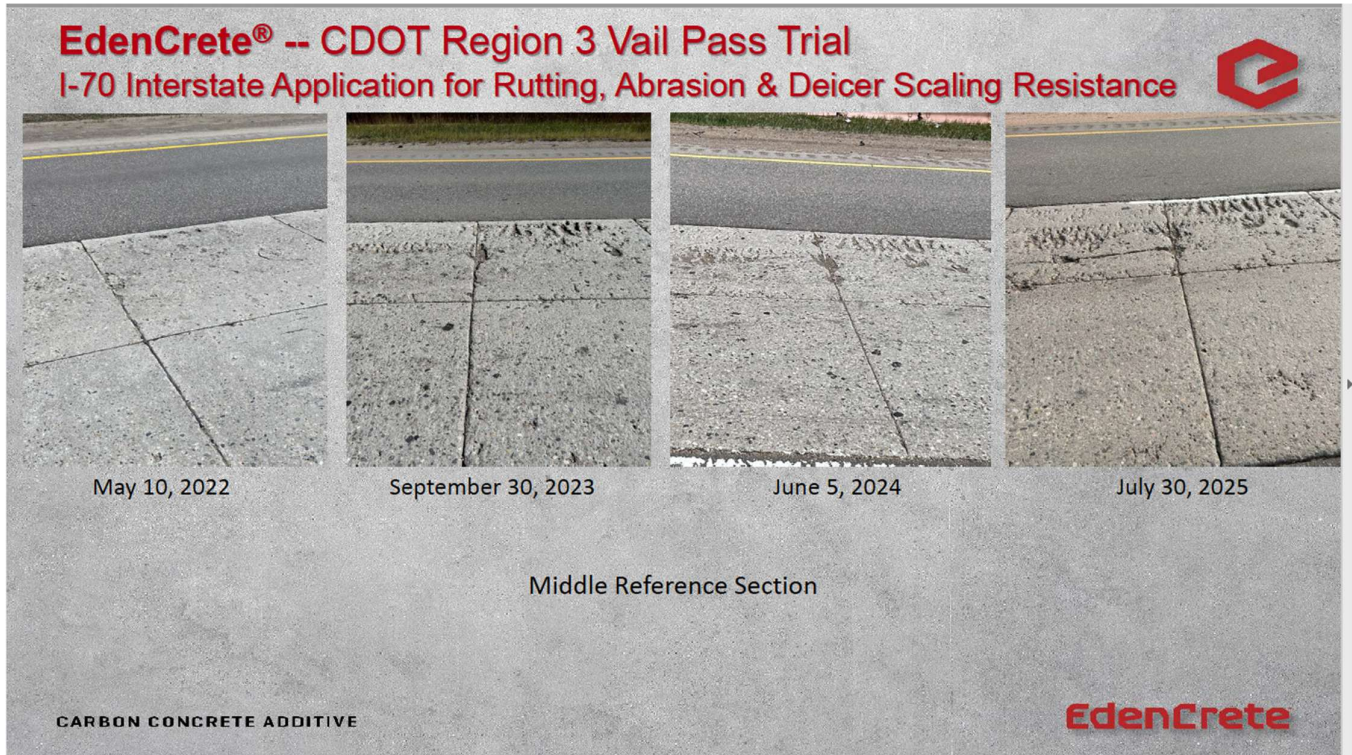


Figure 5. Standard Portland concrete reference – Middle Section

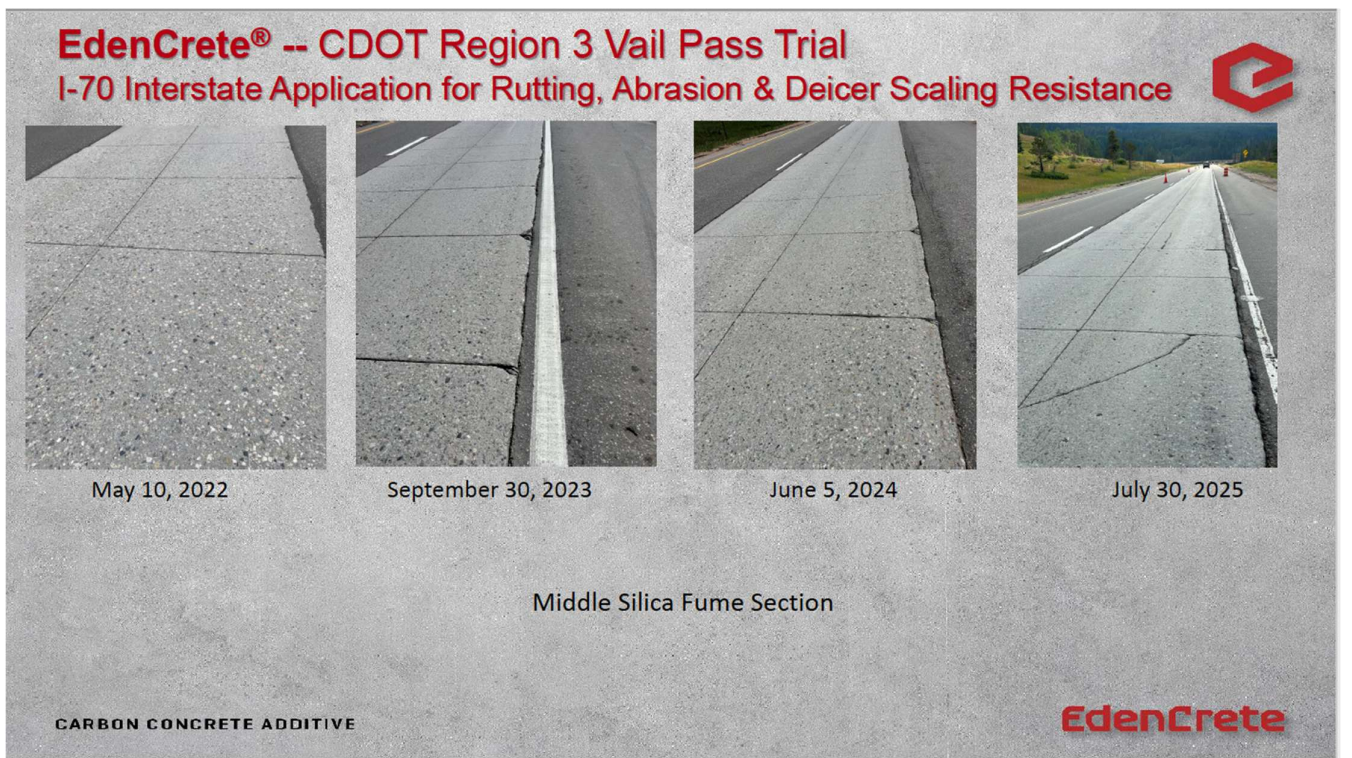


Figure 6. Silica Fume concrete – Middle Section

End Section

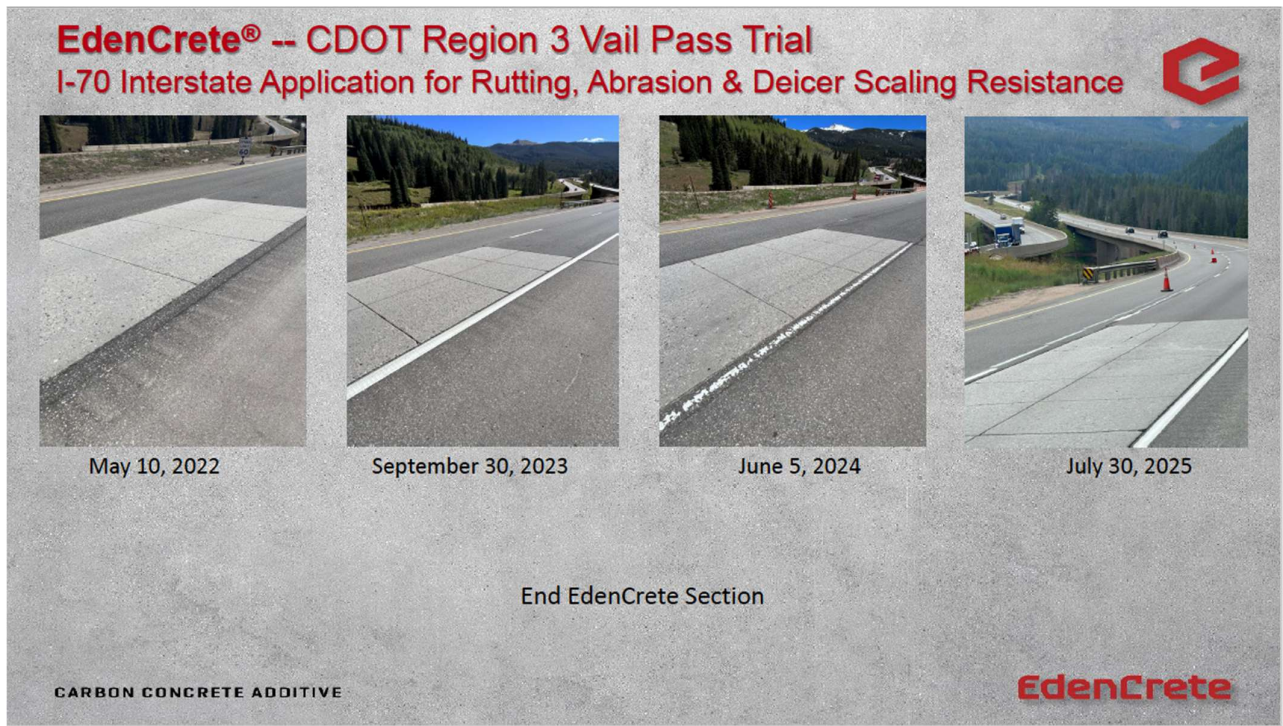


Figure 7. EdenCrete enriched concrete – End Section

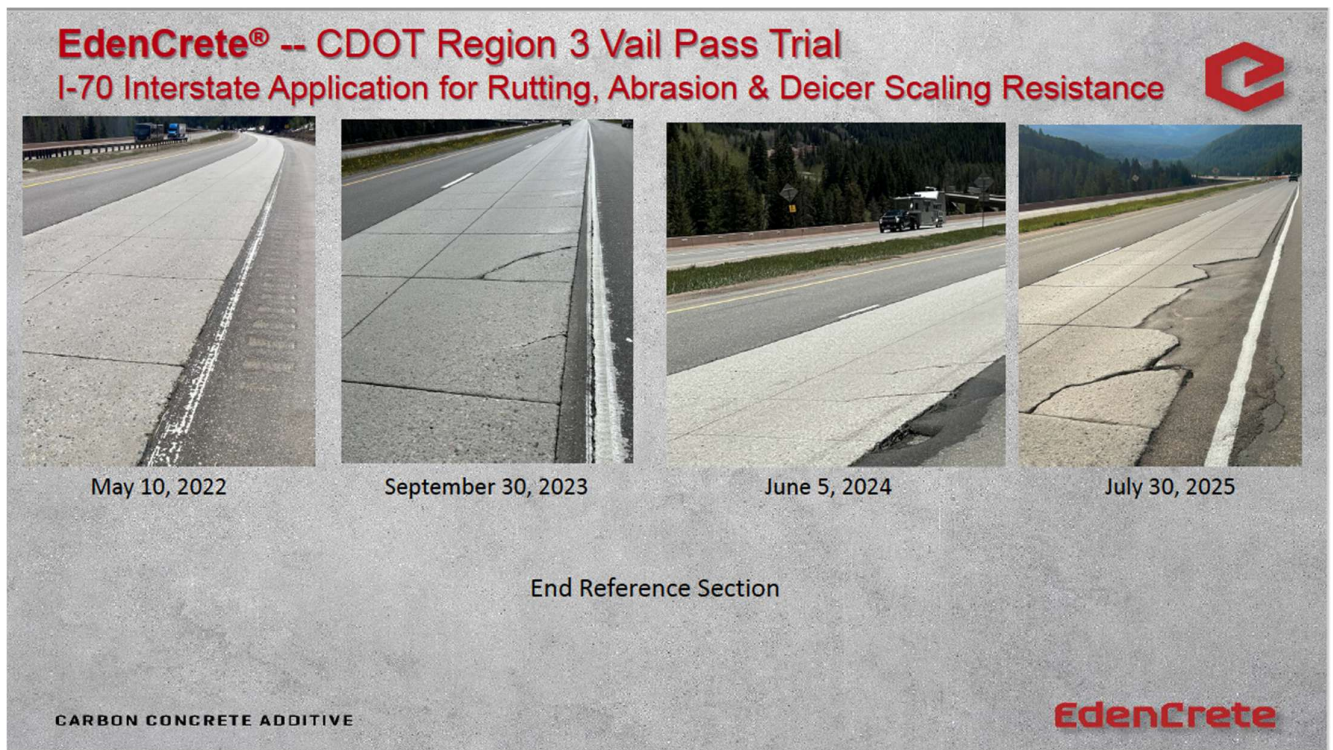


Figure 8. Standard Portland concrete reference – End Section

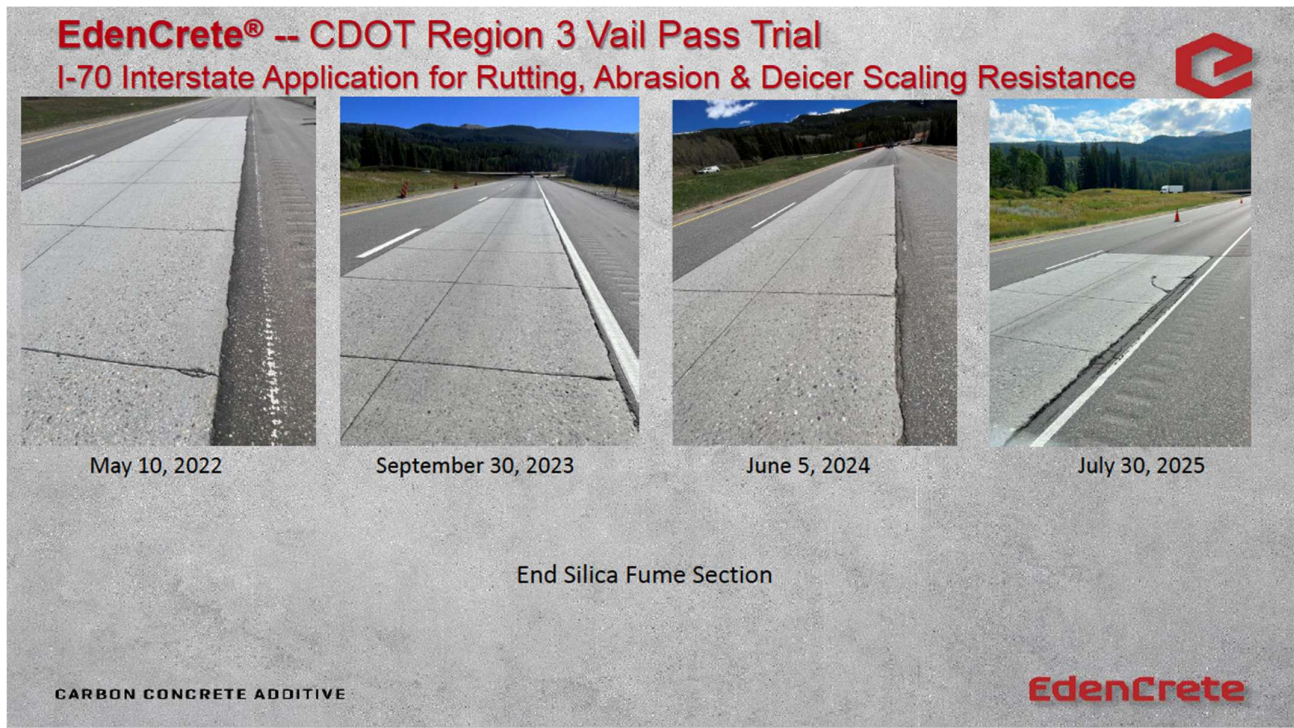


Figure 9. Silica Fume enriched concrete – End Section .

Background

After several years of planning, in 2021 the Colorado Department of Transportation (CDOT) undertook a three-year comparative concrete paving trial in the Rocky Mountains on Interstate Highway 70 (I-70).

The trial was conducted in harsh and challenging conditions at an elevation of approximately 10,000 feet (approx. 3050 meters) at the Vail Pass, Colorado (see Eden's ASX Announcement 16 June 2021). The long-term trial over three years involved laying three concrete sections and two asphalt sections of highway pavement (see Figure 10) to test the comparative performance of each.

The purpose of the trial is to evaluate the relative performance over a number of years of concrete highway paving compared with asphalt. This was the first time CDOT had placed concrete on Interstate 70 (I-70) near Vail in such a trial. The three concrete mixes that CDOT is evaluating are:

- a control mix ("the Reference"),
- a silica fume mix, and
- an EdenCrete® mix .

The Reference (i.e., the control,) a 4500 psi (31 MPa) exterior paving mix, was specified as the base mix. The second mix used the same control mix but replaced 7% of the cement with silica fume. The third mix included adding EdenCrete® at a dosage rate of 2 gal/yd³ (9.9 l/m³) to the Reference (but with added no silica fume).

The three concrete sections involved the replacement of a depth of 6 inches (15cm) of the bitumen with the placement on the remaining firm bitumen base of approximately 600 yd³ (460 m³) of concrete at a thickness of 6 inches (15 cm) in the drive lane at Mile Marker 184 on eastbound I-70. Each of the three mixes involved placement of approximately 200 yd³ (153 m³) of concrete (see Figure 10). The road was re-opened to traffic three days after the placement of each section.



Figure 10- Vail Pass Trial on I-70

Historically, CDOT's high-altitude designs have used asphalt pavement due to its flexibility, the ease of placement and repair, as well as the cost. The arguments against concrete pavement have been that it increased cost, required longer construction periods extending lane closures and potentially creating unsafe traffic conditions. Further, the soil in the mountains is notorious for movement under load, and a more flexible material such as asphalt pavement was assumed to perform better than concrete with regards to cracking. Typically, high mountain passes like Vail expose pavements to severe winter freeze thaw cycles requiring regular applications of harsh de-icer chemicals.

Further, semi-trailers using snow chains and passenger vehicles using studded snow tires for driving in the icy conditions, create pavement rutting, a dangerous safety hazard for the motoring public.

The argument presented to support this I-70 trial was that CDOT should consider using concrete pavement instead of asphalt, as the service life of concrete pavement until repair or replacement of concrete is required, will be greatly extended, and the overall life-cycle costs greatly reduced.

If the economic benefits of the extended service life are sufficient to offset the increased upfront cost of concrete construction, it would make concrete a competitively priced alternative to asphalt. CDOT evaluated EdenCrete® as one of the three options to potentially achieve this outcome.

Evaluation Criteria

Each of the concrete pavement sections was evaluated over three years, for surface wear, cracking, scaling, and rutting.

After two winters, on 8 December 2023 CDOT released its concrete pavement test observations including photographs of each of the three sections

Also attached were a series of photographs in which Eden has now extended to cover the past four winters, showing each of the three concrete sections (the start, middle and the end portions of each concrete section) to enable a visual comparison of the progressive level of wear that occurred in each over the last four years. To date, the EdenCrete® section appears to be performing very well and apparently better than both the reference and the silica fume concrete sections.

CDOT indicated it intended to continue monitoring the performance of the three concrete sections over the coming years, providing an extremely effective, long-term, very professional trial, and Eden looks forward to seeing how the EdenCrete® concrete section performs on a in comparison with each of the Reference and the Silica Fume concrete sections as the years pass.

Future

High-altitude highway pavement has always been challenged by the environment. With the first concrete placement now completed on Vail Pass, successful performance by the EdenCrete® pavement and the other concrete sections will support the case for the future use of concrete pavement in both Colorado for other mountainous states. Using concrete in place of asphalt will not only help to minimize rutting and provide ancillary benefits to public safety, it is considered highly likely to significantly extend the service life of the pavement and thus also potentially reducing the life-cycles costs of the pavement, potentially save millions of dollars for DOTs, not only in mountainous regions of the USA and elsewhere, but also where snow and ice occur during winter. To date this assumption is certainly being supported, particularly by the EdenCrete concrete section. Should the EdenCrete® concrete section continue to outperform the Reference and the silica fume concrete sections over the longer term, it could open a very significant infrastructure market in many parts of the world.

EdenCrete® Background

EdenCrete® products are Eden's 100% owned, proprietary carbon-strengthened concrete additives that enhance a wide range of performance characteristics of the concrete including compressive strength, flexural strength, tensile strength, abrasion resistance, reduced permeability, increased modulus of elasticity, reduced shrinkage and that collectively deliver stronger, tougher, more durable and longer lasting concrete.

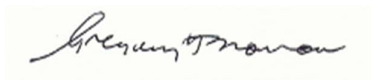
EdenCrete® is generally used in concrete that incorporates a high percentage of Ordinary Portland Cement (OPC or Portland cement) whilst EdenCrete® Pz is mostly used in concrete that incorporates a high percentage of pozzolans as an alternative cementitious material (including fly-ash and blast furnace slag which are each waste by-products from coal fired power stations and metal smelting respectively, thereby each being treated, as a waste by-product, as having a zero Greenhouse Gas footprint from its production process).

As a result, EdenCrete® Pz and EdenCrete® Pz7 in particular, have repeatedly shown it is capable of enabling the proportion of the Portland cement in the concrete to be replaced by a percentage of pozzolans with far lower Greenhouse Gas footprints, resulting in a reduction in the Greenhouse Gas footprint generated in the production of the various cementitious components used in the manufacturing of the concrete.

All three products have repeatedly been shown to be suitable for use in ready-mix concrete, pre-cast and pre-stressed concrete, shotcrete, pumped concrete and volumetric concrete.

One of the primary target markets for EdenCrete® products is improving the performance of concrete used in the construction and maintenance of concrete roads, bridges, ports, airports, and other infrastructure, particularly where it is subject to heavy wear, freeze/thaw weather conditions, heavy snow falls, and/or high levels of added salt or de-icing chemicals.

Since 2015, EdenCrete® products have been sold in the USA and more recently also in Australia and a growing number of other countries. They have successfully and repeatedly delivered a wide range of benefits when incorporated into concrete that is used in many different applications, including low-rise, medium-rise and high-rise building construction, roads and bridges, ports/marine/coastal applications, bus stations, carparks, water pipes, hardstand areas, waste transfer stations, warehouses, shotcrete applications, stadiums, and pre-stressed and pre-cast concrete products.



Gregory H. Solomon

Executive Chairman

This announcement was authorised by the above signatory.

For any queries regarding this announcement please contact him on +618 9282 5889.