**NEWS ARTICLE**

Pratley Putty plays a key role in Kariba Dam spillway rehabilitation

**13 September 20****22**: Pratley Putty is playing a key role in the rehabilitation of the Kariba Dam spillway. The hand-mouldable, high-performance putty-like adhesive was identified by distributor Mart Solutions to be used in the cofferdam components of the project.

“Pratley Putty is ideal for use underwater, but can also fill, seal, build up and bond almost any rigid material,” notes [Pratley](https://www.pratleyadhesives.com/Products.php?&Category=All&Type=False&Range=False&Division=Adhesives&version=611) Marketing Director **Eldon Kruger**.

**Martie Coulson**, the owner of distributor Mart Solutions, explains that a similar product was trialled initially, but proved too costly and had a long lead time to boot. “Pratley Putty proved the best quick-setting solution to hold the cofferdam components in place,” she highlights.

The concrete dam wall has six sluice gates that release water into Lake Kariba. Over time, the concrete has expanded slightly, affecting the smooth operation of the sluice gates, which could possibly cause the gates to jam in either the open or closed position, posing a potential risk to people, animals, and the environment.

The spillway gates are being refurbished one by one in a long-term project that commenced in 2019 and is scheduled for completion in 2025. A consortium comprising GE Hydro France and Freyssinet International was awarded the contract by the Zambezi River Authority (ZRA).

The first step is to manufacture key components like a new emergency gate, motorised gantry crane, and cofferdam parts off-site. These are transported to the site by ship and road, reassembled and placed into position.

The next step is to create a dry workspace at each gate so it can be refurbished. This entails building a small temporary cofferdam that clings to the dam wall on its lakeside. Experienced divers affix steel supporting members to the upstream face of the dam wall to allow the cofferdam to be put in place.

“As part of the work we perform on-site, we must place and anchor the metal support pieces underwater. Then we must grout between these supports and the concrete structure of the cofferdam. Prior to pouring the grout, we place some wood and steel framework in place,” highlights Coulson.

The main application of Pratley Putty is to seal the framework to avoid leakages during pouring. In terms of the application process, both components of Pratley Putty are mixed on the surface and then the mixture is taken underwater by a diver who applies it by hand.

A crane on the dam wall lowers the cofferdam pieces into place one by one. The water trapped between the cofferdam and the dam wall is pumped out into the lake, creating the water-free space necessary for the refurbishment work.

Finally, a new self-motorised gantry crane will be installed that can place the emergency gate in position to close any of the sluice gates as required. The spillway itself will be commissioned once the six sluice gates have been refurbished and the new gantry crane installed.

The Kariba Dam Rehabilitation Project (KDRP) is the latest unique application for Pratley Putty. Since the product’s launch in the early 1960s, Pratley Putty has become a household name, with a myriad of uses.

It has secured coral fragments in a Coral Nursery Project spearheaded by Oceans Without Borders in Zanzibar. A green sea turtle had its damaged shell repaired with Pratley Putty, while researchers have used Pratley Putty to stick radio transmitters to the scales of pangolins while studying them in the wild. It was even used by the American space agency onboard its Ranger lunar spacecraft, acquiring global fame as the only South African manufactured product to go to the moon.

“Pratley Putty’s strength and reliability reinforce the company’s mantra of producing products that outperform all others on the global market,” comments Kruger. Now the product has proven its versatility again with the challenging engineering and construction work undertaken to rehabilitate the spillway.

Kariba Dam has supplied the water requirements for Zimbabwe and Zambia for over 60 years. The KDRP includes reshaping the plunge pool, which is being undertaken by French engineering firm Razel-Bec, as well as refurbishing the spillway. This will ensure the dam’s long-term effectiveness well into the future, reports the ZRA.

**Pull quote**

“Pratley Putty has been used to seal the framework to avoid leakages during pouring concrete into the hollow columns of the cofferdam.” – **Martie Coulson,** Owner, Mart Solutions

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#PratleyPutty has proven its versatility again with the challenging engineering and construction work undertaken to rehabilitate the spillway of Kariba Dam.

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