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Building Blocks Of Innovation

Journeys congratulates our Work Improvement Team (WIT), Specialis, for being the sole winner of the Outstanding NOVA Award at the PS21 EXCEL Convention in November 2002. The team was also one of three "gold winner" teams that received a gold medallion for outstanding performance at the first National Innovation and Quality Circles competition held in December 2002. The team has indeed done LTA proud!

Coming from the Road Management Department, the team won these awards for developing an innovative method for constructing kerbs that can be maintained easily.

"This is truly a breakthrough in kerbing technology", said Mr William Kwang, the team facilitator. "Maintenance of damaged kerbs, and fading or peeling paint will be a thing of the past with this new method."

Damaged kerbs at critical places like cross-junctions, U-turns and bends have to be repaired and repainted quickly. Currently, reconstructing a kerb is a tedious process, as it requires the existing kerb and concrete foundation to be broken up, creating noise and dust. The debris have to be removed and formwork erected before any concrete can be laid. In fact, it takes about 20 days to reconstruct a kerb and paint a road junction, typically 1.35 kilometres long. With the new method, the process has been cut down to only eight days! Motorists will welcome



The new directional kerbs (inset) can even help to guide the direction of traffic flow.

the improvement, as the duration of lane closures for repair works is significantly reduced.

"The idea is to use pre-cast units to save time," commented Mr Yoong Chin Chong, Deputy Manager for Road Management. First, small arrow-shaped concrete units are cast. These high-strength pre-cast units are then slotted and interlocked Lego-style, into the groove of a pre-cast kerb base.

"Constructing this new kerb is faster, cleaner and quieter. It is really environmentally friendly, something that motorists and pedestrians alike will definitely cheer about!" added Mr Yoong. "No more fussing over the formwork and concreting on site."



A special feature of the kerb is its indelible black and white colours, eliminating the need for painting and future maintenance. The surfaces of the white sections are also painted with fine glass beads to enhance their visibility. The end result? A high-strength kerb that is more visible at night and in adverse weather conditions, which makes travelling on our roads even safer!

Interestingly, this type of kerb and its bases can be reused. Normally, after raising the asphalt pavement, the road kerbs need to be raised as well. The current practice requires the existing kerbs and its foundation to be fully demolished and reconstructed. With the new method, the arrow-shaped kerbs can be slid off the grooves and their bases lifted up. These are then placed aside while the trench is filled with sand. After the fill is compacted, the existing bases and the kerbs can be placed back into the trench and grooves. Hey presto! A newly paved road with raised kerb – at a lower cost.

Concluded Mr Kwang, "We have totally changed the approach of doing kerb work. This innovative method had not been thought of anywhere else in the world. In fact, this design has already attracted some international interest."

You can check out the new kerbs using this method along the bend at Evans Road and the junction of Kranji Way/Sungei Kadut Drive. ♦

By Sonia Meyer

A Comparison Of Two Methods Of Kerbing

Conventional Method	Innovative Method
Step 1: Power saw-cut and hacking	Step 1: Power saw-cut and hacking
Step 2: Excavation	Step 2: Excavation
Step 3: Erect Formwork	Step 3: Lay sand base and compact
Step 4: Concreting	Step 4: Placing Pre-cast base
Step 5: Placing of kerbs	Step 5: Interlock pre-cast arrow-head shaped kerb units to form the directional kerb
Step 6: Painting of kerbs	