

Development of Grounding Terminal Sealing Technology for Wiring Harnesses Used in Automobiles

1. Outline

As the number of instruments and system components located in the engine room has increased in recent vehicle development, the need for water proofing technology has become more important. However, the current waterproof splice has design limitations in terms of the installation space, processability, and reliability.

The SEI Group and Toyota Motor Corporation have jointly developed a new technology that completely prevents water penetrating the grounding terminals by injecting sealing liquid into the wire from the grounding terminal section. The wiring harnesses with this new technology are used for new Vitz.

The SEI Group will extend use of these wiring harnesses for other models, as they eliminate design limitations and reduce weight and cost.

- (4) No limitations on wiring harness design.

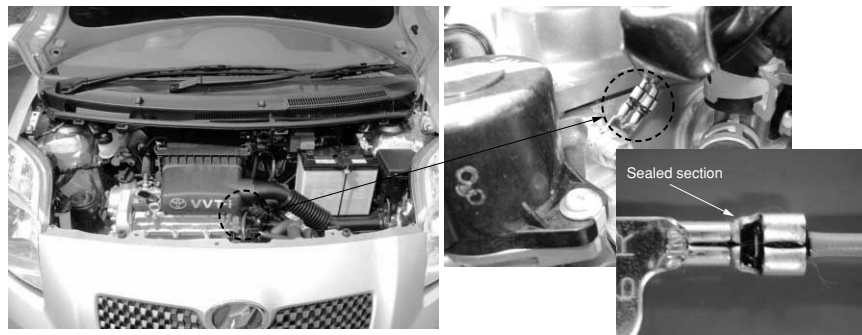


Fig. 1. Sealed grounding terminals used for actual cars

2. Features

- (1) Sealing at the ends of grounding terminals.
- (2) Waterproof performance equivalent to or higher than waterproof splice.
- (3) No increase in space.

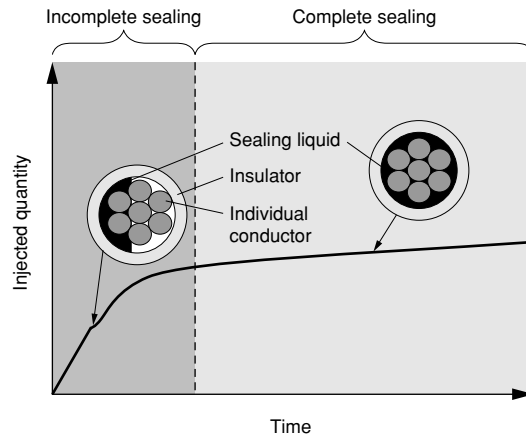


Fig. 2. Sealing liquid injection image

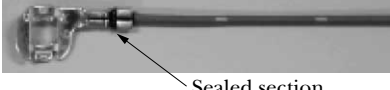

	Structure	Waterproof performance	Effect of reduction in weight	Increase in space	Limitations for W/H design
Sealed grounding terminal (new product)		Equivalent to or higher than conventional product	Reduced by 99% (compared to conventional product)	Not applicable	Not applicable
Waterproof splice (conventional product)		-	-	Applicable (Outer diameter increased due to taping.)	Applicable (Sealing section should not be bent.)

Fig. 3. Comparison between new and conventional products