090K REC TERMINAL SERIES

(Wire to Wire Type)

1. Scope

1-1. Contents

This specification covers the requirements for product performance, test methods and quality assurance of New 090 Recep contacts

1-2. Qualification

When testing the 090 Tab/Recep products the following specified specifications and standards shall be used. All tests must be done by using the applicable inspection plan and product.

2. Applicable Document

The following documents form a part of this specification to the extent specified herein. In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall talk precedence. In the event of conflict between the requirements of this specification and the referenced documents, this specification shall talk precedence.

2-1. TE Specifications

A. 109-1: General Requirements for Test Specifications
B. Customer Drawings and Description.
   P/N: 2446060(New 090 Rec Terminal Series)
C. 114-160527: Application Specification

2-2. Customer Documents & Industry Standard

A. ES91500-00 Connector General (Hyundai Motor Company)
B. ES91101-00 Electric Wiring (Hyundai Motor Company)

3. Requirements

3-1. Design and Construction

Product shall be of the design, construction and physical dimensions specified on the applicable product drawing

3-2. Materials

Terminal

Description	Material	Finish
Tab (Male)	Brass (C2680)	Tin
Receptacle (Female)	Brass (C2680)	Tin

3-3. Rating

Temperature shall be within a range of -40℃ to +105℃.

The rating includes ambient temperature.

Test Description	Requirement	Procedure
TERMINAL MECHANICAL		
1. Visual Inspection	Assure parts used for testing are Free of damage and obvious defects. Application spec: 114-160527	Visually, dimensionally, and functionally inspected per applicable qualify inspection plan.
2. Terminal/Terminal Cycling	Preconditioning	Completely mate and un-mate each connector or terminal pair 10 times.
3.Terminal-to-Terminal Engaging Force	Max 1.0 kgf	Operation speed: 50mm/min. Measure the force required to mate contact Initial.
4.Terminal-to-Terminal Disengaging Force	Max 1.0 kgf	Operation speed: 50mm/min. Measure the force required to un-mate contact. 10 times.
5. Terminal Bend Resistance	Terminal shall endure the external force(1.0 kgf)	Operation speed: 50mm/min. Original position, the terminal rotated 90° and 180°from the position shown in Fig. 1

6. Terminal Retention Force	Initial:3.5kgf min.(Primary lock only) Final: 10kgf min. (Secondary lock)	Operation speed: 50mm/min. Fix the housing after inserting crimped terminals. Extend one line of cable in axial direction at a position 50~100 mm away from crimped part
7. Crimp Tensile Strength	Wire Size (mm^2) / Strength (kgf) 0.22 / 4 min 0.30 / 6 min 0.50 / 9 min 1.0 / 15 min 2.0 / 20 min 2.5 / 25 min	Operation speed: 50mm/min. Apply an axial pull-off load to crimped wire of contact secured on the tester.

TERMINAL Accelerated Environment Test		
1. Initial Dry Circuit resistance	Max permissible resistance 0.55m Ω	Measure the initial resistance 80 ±3 °C x30±5 minutes, -40±3 °C x30±5minutes to 1 cycle and measure the resistance after performing 80cycles 65±3 °C x 95 to 98%RH X 16hours ± 5 minutes → -40±3 °C x 2hours ± 5 minutes → 85±3 °C x 2hours ± 5 minutes → 23±3 °C x 4hours measure the resistance after 5 cycles with 1 cycle for ±5 minutes
2. After Thermal Shock	Max permissible resistance 0.55m Ω Allowable resistance changes from initial to end: 0.33m Ω	
3.After Temp Humi	Max permissible resistance 0.55m Ω Allowable resistance changes from initial to end: 0.33m Ω	

4. Derating Curve and Temperature Rising

*** Limit Temperature: 105°C**