Evaluation Method for Water Penetration Resistance of Concrete Structures Applicable to Horizontal Surface Sohei NISHIO High durability is required for railway structures constructed on the premise of long-term service as social infrastructure. Technological development that leads to longer life of structures is becoming more important in terms of contributing to decarbonization. A method called WIST (Water Intentional Spraying Test) developed by the author of this paper is becoming widespread as a non-destructive test method that can easily evaluate water penetration resistance that affects the durability of reinforced concrete structures. However, due to the principle of measurement, the application of the WIST was limited to vertical planes. This paper reports a new measurement method developed for applying the WIST to horizontal planes. The new method can be implemented just as easily as the conventional WIST with the same equipment.