

Marcin Garbacz: Accelerated Material Weathering Used in Rolling Stock with Simulation of Sunlight and Weather Conditions

The article features the most crucial information relating to weathering tests with temperature, humidity, rain and solar simulation. The influence of weather parameters, particularly the sunshine, on the degradation of the material has been described. Moreover, available equipment to perform weathering laboratory tests have been presented. The problem of calculating time to carry out accelerated weathering laboratory tests transposed to natural weathering has been described and also the methods of mathematical correlations of weathering natural and laboratory tests results have been outlined. Finally, the kind of the most suited equipment to the planned tests included in the research project has been identified and the relevant standards which the tests will be based on have been reviewed.

Keywords: accelerated weathering, xenon-arc radiation, fluorescent UV lamps, coatings, plastics, textiles, research project, The Railway Research Institute