ABSTRAK

Noise disebabkan dari bunyi yang tidak dikendalikan yang terpengaruh terhadap gangguan kesehatan masyarakat dan ketidaknyamanan pendengar. Permasalahan penelitian adalah *noise* dari *gangway* terhadap interior *noise* kereta K1 *stainless steel* dalam mengevaluasi kenyamanan di kereta. Tujuan penelitian adalah menganalisis karakter akustik pada *gangway* serta insulasi kebisingan pada *gangway* berdasarkan nilai *sound transmission class*. Metode penelitian adalah kuantitatif eksperimen dengan dilakukan pengukuran parameter akustik kereta K1 *stainless steel* kondisi statis yaitu *background noise* mengacu standar ISO 3381, pengukuran *reverberation time* mengacu standar ISO 3382 dan pengukuran *transmission loss* mengacu standar ASTM E336 pada ketinggian 1,2 m dari atas lantai dengan digunakan mikrofon yang memiliki satuan dB. Hasil pengukuran parameter akustik dianalisis dan dilakukan simulasi insulasi kebisingan pada *gangway* berdasarkan analisa *sound transmission class* sehingga dihasilkan nilai yang sesuai pada standar klasifikasi nilai STC ASTM E413-16. Hasil penelitian adalah nilai *reverberation rime* (RT) pada *gangway* kereta *stainless steel* 0,57 - 0,59 *second*, nilai *noise reduction* (NR) pada *gangway* 45,4 dB, nilai *transmission loss* (TL) pada *gangway* 43,3 dB, nilai FSTC pada *gangway* 15, 11, 18, 23 dan nilai STC hasil simulasi 22. Kesimpulan penelitian adalah nilai STC pada *gangway* dari hasil perhitungan dan hasil simulasi berdasarkan klasifikasi nilai STC pada standar ASTM E413-16 dikategorikan insulasi rendah dengan suara pelan terdengar senilai 20-25.

Kata kunci : noise, gangway, parameter akustik, sound transmission class, stainless steel

ABSTRACT

Noise is caused by uncontrollable sounds that are affected by public health problems and listener discomfort.The research problem is the noise from the gangway to the interior noise of the K1 stainless steel train in evaluating comfort on the train. The aim of this research is to analyze the acoustic characteristics of the gangway and the noise insulation of the gangway based on the value of sound transmission class. The research method is a quantitative experiment by measuring the acoustic parameters of the K1 stainless steel train in static conditions, namely background noise referring to ISO 3381 standard, reverberation time measurement referring to ISO 3382 standard and transmission loss measurement referring to ASTM E336 standard at a height of 1.2 m from the floor using a microphone which has units of dB. The results of acoustic parameter measurements were analyzed and a noise insulation simulation was carried out in the gangway based on sound transmission class analysis so that a value was produced according to the ASTM E413-16 STC value classification standard. The results of the study are the reverberation rime (RT) value in the stainless steel train gangway 0.57 - 0.59 second, the noise reduction (NR) value in the gangway 45.4 dB, the transmission loss (TL) value in the gangway 43.3 dB, the FSTC value in gangway 15, 11, 18, 23 and the STC value from the simulation results 22. The conclusion of the study is the STC value in the gangway from the calculation results and simulation results based on the classification of STC values in the ASTM standard E413-16 is categorized as low insulation with a low sound value of 20-25.

Keywords : noise, gangway, parameter akustik, sound transmission class, stainless steel