

## ABSTRAK

Pesawat udara merupakan sarana transportasi yang paling banyak diminati dalam pengiriman barang dari suatu daerah ke daerah lainnya. Barang tersebut dapat berupa benda mati ataupun makhluk hidup. Barang yang diangkut ke *cargo* area bisa saja menjadi pemicu terjadinya kerusakan pada *cargo* area pesawat terbang Airbus A330 tersebut, seperti tumpahan cairan dari dalam kemasan kargo dan proses *loading* atau *unloading* kargo dapat menyebabkan korosi di *cargo* area. *Roller track cargo compartment* merupakan salah satu bagian pesawat yang rentan terkena korosi. Pada *aircraft maintenance manual* tidak ada langkah untuk menerapkan aplikasi *coating*, dimana diketahui bahwa *coating* adalah salah satu pelindung pelapis suatu logam untuk mengatasi serangan dari korosi. Tujuan penelitian ini adalah untuk melaksanakan penggunaan *coating* Adrox av-15 pada *roller track assembly*, menganalisis perbedaan laju korosi antara *roller track assembly* yang *dicoating* dan tidak *dicoating* menggunakan Adrox av-15 dan menganalisis efektivitas Adrox av-15 pada *roller track assembly*. Uji coba aplikasi *coating* pada model *roller track cargo compartment* A330-200/300 dilakukan selama 1670 jam untuk mengetahui perbandingan nilai laju korosi *roller track* yang diberikan lapisan pelindung adrox AV15 dengan *roller track* yang tidak diberikan lapisan pelindung adrox AV15. Hasil penelitian adalah nilai laju korosi *roller track assembly* yang *dicoating* lebih rendah daripada yang *roller track assembly* yang tidak dilapisi *coating*. Berdasarkan uji coba yang dilakukan, diperoleh bahwa laju korosi spesimen yang dilindungi lapisan *coating* adrox AV15 memiliki rata-rata nilai laju korosi sebesar 0,1505 mmpy. Sedangkan untuk spesimen yang tidak dilindungi sebesar 0,4045 mmpy. Untuk spesimen *roller track* yang dilindungi lapisan *coating* mempunyai rata-rata sisa umur penggunaan 3,33 tahun, sedangkan untuk spesimen yang tidak dilindungi *coating* mempunyai rata-rata sisa umur penggunaan 0,99 tahun. Dan efisiensi dari penggunaan *coating* pada spesimen *roller track* ini mampu menahan laju korosi hingga 62,7%. Uji coba ini membuktikan bahwa pengaplikasian *coating* pada *roller track cargo compartment* ini efektif dalam mengatasi laju korosi pada *roller track cargo compartment* A330-200/300.

**Kata Kunci:** *Cargo compartment*, korosi, *coating*, *roller track*, laju korosi.

## **APPLICATION OF ADROX AV-15 COATING ON ROLLER TRACK ASSEMBLY AIRBUS A330-200/300 ANALYSIS**

*Aircrafts are the most popular means of transportation in shipping goods from one area to another. These items can be inanimate objects or living things. Goods transported to the cargo area can trigger damage to the cargo area of the Airbus A330 aircraft, such as liquid spills from inside the cargo packaging and the process of loading or unloading cargo can cause corrosion in the cargo area. The roller track cargo compartment is one part of the aircraft that is susceptible to corrosion. In the aircraft maintenance manual there are no steps to apply coating applications, where it is known that coating is one of the protective coatings for a metal to overcome attacks from corrosion. The purpose of this study was to apply the coating of Adrox av-15 to the roller track assembly, to analyze the difference in corrosion rate between the roller track assembly which was coated and not to be coated using the Adrox av-15 and to analyze the effectiveness of the adrox av-15 to the roller track assembly. The coating application trial on the roller track cargo compartment model A330-200/300 was carried out for 1670 hours to determine the comparison of the corrosion rate value of the roller track that was given a protective layer of ADROX AV15 with the roller track that was not given a protective layer of ADROX AV15. The result of the research is the value of the corrosion rate of the coated roller track assembly is lower than that of the uncoated roller track assembly. Based on the result, it was found that the corrosion rate of specimens protected by a layer of Adrox AV15 coating had an average corrosion rate of 0.1505 mmpy. As for the unprotected specimen, it was 0.4045 mmpy. For specimens of roller tracks that are protected by a coating layer, the average remaining service life is 3.33 years, while for specimens that are not protected by coating, the average remaining service life is 0.99 years. And the efficiency of the use of coating on the roller track specimen is able to withstand the corrosion rate of up to 62.7%. This trial proves that the application of coating on the roller track cargo compartment is effective in overcoming the corrosion rate on the roller track cargo compartment A330-200/300.*

**Keywords:** *Cargo compartment, corrosion, coating, roller track, corrosion rate.*