

Analisa kerusakan pipa avtur bawah tanah di Bandara Udara Medan = Study of avtur underground pipeline failure at Airport of Medan / Muhammad Kautsar Kurniawan

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Abstrak

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Analisa terhadap pipa penyalur bawah tanah dengan spesifikasi API 5L PSL1 Grade B dan lapisan eksternal three layer polyethylene serta lapisan internal epoxy polyamide untuk mendistribusikan avtur dari Depot Pengisian Pesawat Udara ke Bandar Udara yang mengalami kegagalan beroperasi sesaat setelah proses commissioning dinyatakan baik dan masih dalam masa pemeliharaan setahun. Analisa dilaksanakan dengan melakukan pengujian secara mekanik, kimia, dan dilakukan pengamatan secara rinci pada produk karat dengan menggunakan Scanning Electron Microscopy serta Energy Dispersive X-Ray. Uji polarisasi dilakukan dalam medium Avtur dan medium air hasil proses Horizontal Direct Drilling. Kondisi lingkungan dan sistem elektrikal di lokasi berpengaruh besar terhadap percepatan korosi.

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ABSTRACT

Analyze of underground pipeline with API 5L PSL1 Grade B and three layer polyethylene external coating and epoxy polyamide internal coating to distribute aviation fuel from the Aircraft Filling Depot to the Airport that failed operate shortly after commissioning process is declared good and still under maintenance a year. The analysis was carried out by testing mechanical, chemical, and detailed observation on rust by using Scanning Electron Microscopy and Energy Dispersive X-Ray. The polarization test was conducted on Avtur medium and horizontal Direct Drilling process water medium. Environmental and electrical system at the site have a major effect on corrosion acceleration.