



## Coalescence filtration of ship oil bilge water with an nonwoven fabric

Jerzy Gutteter-Grudziński<sup>a,\*</sup>, Andrzej Moraczewski<sup>b</sup>

<sup>a</sup>*Maritime University of Szczecin, ul. Wały Chrobrego 1/2, 70-500 Szczecin, Poland  
Tel. +48 500472509; email: j.grudzinski@am.szczecin.pl*

<sup>b</sup>*Institute of Operational Technologies–State Research Institute; Textile Technology  
Dpt. in Lodz, ul. Hipoteczna 6, 91-335 Lodz, Poland*

Received 17 May 2010; Accepted 2 August 2010

---

### ABSTRACT

This article examines phenomena occurring in the process of oil-water emulsion flow through a coalescence fabric filter. The authors determined the flow of oil-water mixture through a fabric partition, the efficiency of filtration  $\eta_f$  and the distribution of oil particle size  $d_o$  by using a Malvern analyzer gauge. The results, presented graphically and in tables, are considered as satisfactory as they meet the standards of Resolution MEPC 60/(33) IMO for shipboard equipment.

*Keywords:* Oil-water emulsion; Oil separation; Coalescence fabric barrier filter

---

---

\*Corresponding author.