

# Development of Flat Belt Type Oil Skimmer

**Mr. V. L. Kadlag, Harshal Balu Gaikwad, Pranit Shubhash Shinde,  
Shubham Shivaji Nirgude, Prajjwal Shubhash Pawar**

Department of Mechanical Engineering  
Sir Visvesvaraya Institute of Technology (SVIT), Nashik, Maharashtra, India

**Abstract:** *During the recent decade, world has witnessed big oil spillage accidents into ocean and made huge impact to the environment. Apart this, sometimes oil is getting spillage through being the results of chronic and careless habits in the use of oil industries and oil products. It is estimated that approximately 706 million gallons of waste oil enters the ocean every year; whereas more than half of that sourced from land drainage and waste disposal. Offshore drilling & production operations and spills or leaks from ships or tankers are typically contributing less than 8% of the total whereas routine maintenance of ships (nearly 20%), onshore air pollution & hydrocarbon particles (about 13%) and natural seepage from the sea floor (over 8%). This has caused ever lasting damage to aquatic life. To separate the mixed oil from the water, industries wide various type of oil skimmers are getting used. Herewith, the objective of this project is to design and conduct efficiency studies of belt type oil skimmer by using various material belts. The belts absorb the oil from water which can be scooped out and collect into a vessel by providing piping arrangements. The collected oil can be reused for many purposes.*

**Keywords:** Spillage, Offshore, Onshore, Seepage.

## REFERENCES

- [1] R.S. Khurmi and J.K.Gupta, Machine Design-I, S chand.
- [2] V.B.Bhandari, "Design of Machine Elements".
- [3] Broje V. and A. A. Keller, 2006. Improved Mechanical Oil Spill Recovery Using an Optimized Geometry for the Skimmer Surface. Environ. Sci. Tech. 40(23):79147918.
- [4] M.Patel, "Design and efficiency of various belt type oil skimmers," International Journal of Science and Research. 2319-7036.
- [5] "A Free Floating Endless Belt type oil skimmer", Journal of United States Environmental Protection Agency Aug-1972.
- [6] M.Husseien; A.Amer, A.Ei Maghoraby, N.A. Toha," Availability of barley straw application on oil spill cleanup" Int. J.Environ, Sci.Tech, 6(1), 123-130, winter 2009.
- [7] P.Grills, F.Linde, "oil skimming" Business potential and Strategic options facing a marginalized Business segments at Sandvik process systems.
- [8] "A Free Floating Endless Belt type oil skimmer", Journal of United States Environmental Protection Agency Aug-1972.
- [9] ITOPF (The International Tanker Owners Pollution Federation Limited), Technical Information Papers, N. 5, Use of Skimmers in Oil Pollution Response, pp. 1 - 15.
- [10] Agrusta A., Bianco F., Perrella G., Perrella L., Zotti I., (2012). Device and methods for the recovery of substances and/or liquid floating in open sea. NAV 2012 Symposium, Naples, Italy, 17/19 October 2012,
- [11] CD-Rom Proceedings