Inventions & Innovation Emerging Technology

Hydrostatic Mooring System

This new technology is an open sea, single-point mooring system for oil tankers and other large ships. Other single-point systems use mechanical coupling between the vessel and the mooring, but this new system uses the suction-cup principle with the mooring buoy itself as a giant suction cup. Because the mooring forces are transferred by friction, structural failure is not possible. Operational limits have been assessed through two test programs. In maneuvering tests, the hydrostatic mooring system consistently performed in 8 meter wave heights while the best competing system can only perform in up to 5 meter wave heights. This means the competing system can operate 95% of the time in the open North Atlantic Ocean whereas the hydrostatic mooring system can operate 99.5% of the time.

The new system holds the promise of being able to moor ships and transfer liquid cargo on the high seas as reliably or even more reliably than in protected harbors.

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