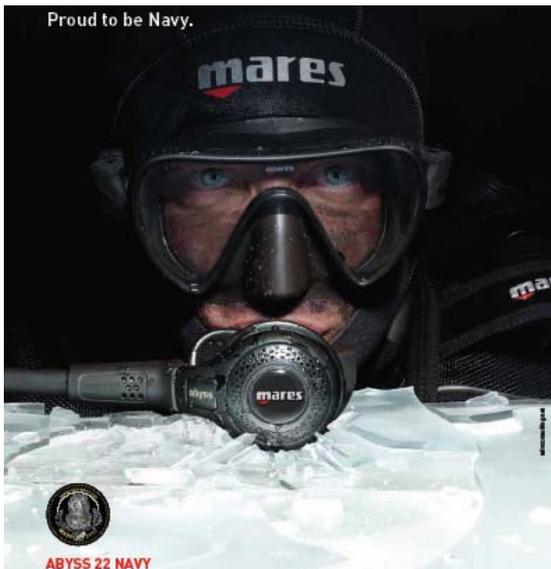


Abyss 22 Navy: approved by U.S. Navy standards!



Through thorough analysis and evaluation of regulator thermodynamics in cold water, Mares has developed the Abyss 22 Navy, an exclusive product meticulously designed to guarantee top performance and reliability under the toughest conditions, including diving under ice.

In confirmation of our work, the Abyss 22 Navy was recently included onto the ANU list (Authorized for Navy Use) of the US Navy.

Every piece of gear utilized by a military diver has to undergo an approval process which, in the case of regulators, includes an extremely strenuous cold water test. These tests are

carried out by the NEDU, the U.S. Navy Experimental Diving Unit, and it is also the NEDU who determines approval or rejection of equipment.

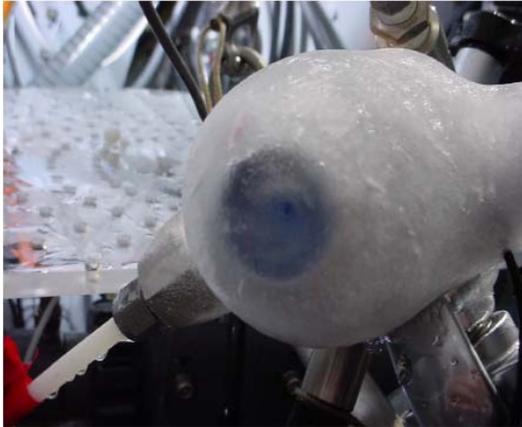
The table below describes the details of the regulator test in comparison with the much milder EN250. The EN250 is the European Norm which every regulator must pass in order to be sold in Europe. It is immediately obvious that what is good for the sport diver is a long way from being good for the military diver!

Comparison of test criteria between EN 250 and US NAVY		
	EN 250	US- Navy
Test depth	50 m	60 m
SCR	62,5 l/min	62,5 l/min
duration of test	5 minutes	30 minutes
cold water testing	4 °C in fresh water	- 2 °C in salt water
LIMITS		
work of breathing	3,0 J/l	1,4 J/l
inhalation pressure	25mbar	15 mbar
exhalation pressure	25mbar	15 mbar
Other differences in the testing procedure:		
	EN 250	US- Navy
Before testing starts, the regulator is at ambient temperature		Before testing starts the regulator is cooled down to -17°C for 12 hours

The main obstacles for most regulators are not so much the limits in the work of breathing or the values of inhalation or exhalation pressure, but rather the fact that most regulators freeze up well before the 10-minute mark under these conditions of depth, breathing rate and sub-freezing temperatures. They turn into a block of ice that spew gas uncontrollably and the test has to be aborted.

The Mares Abyss 22 Navy was submitted to the NEDU in late 2010. The tests are now concluded and here below we present pictures and excerpts from the official test report.*

As the pictures clearly show, also the Abyss 22 Navy turns into a block of ice. This is unavoidable under the conditions of the test. However, in spite of this, the regulator continues to function flawlessly for the duration of the test.



*“Typical first-stage assembly of the Mares Abyss 22 Navy regulator, with exterior icing after a Phase 2 exposure. The regulator is shown above the water.”**

*‘Typical second-stage assembly of the Mares Abyss 22 Navy regulator, with external icing after a Phase 2 exposure. The regulator is shown above the water.’***



The official NEDU report* ends with the following statement:

“ Under the conditions and regulator configurations tested herein, the Mares Abyss 22 Navy regulator (part number 416158) — consisting of first- and second-stage assemblies with a rubber-jacketed intermediate pressure hose attached — passed without failure NEDU’s rigorous unmanned protocol evaluating its performance for use in water conditions of 29 °F** and higher.”

No matter how extreme your adventure, the Abyss 22 Navy is up to the task.
Just go for it and all you need is ... JUST ADD WATER.
Proud to be Navy, proud to be Mares.

*: V.H. Ferris, Unmanned evaluation of Mares Abyss 22 Navy open circuit scuba regulator for cold water diving, NEDU TR 11-03, Navy Experimental Diving Unit, May 2011

** -1.7C