

# PROJECT 12322 ZUBR

Air Cushion Landing Craft



## Mission

Zubr air cushion landing craft is designed to sealift landing assault units (personnel and materiel) from equipped/non-equipped to non-equipped shore, as well as transport and plant mines.

## Features

High strength and floatability of the craft are provided by a rectangular pontoon, the main load-carrying part of the ship's hull. The superstructure built on the pontoon is divided into three compartments with two longitudinal bulkheads: combat materiel com-

partment in the midsection fitted with tank ramps, and outboard sections housing main and auxiliary propulsion units, troops compartments, living quarters, and NBC protection systems. To improve working conditions in the battle stations, troops compartments and living quarters, they are fitted with air conditioning and heating systems, sound/heat-insulating coatings, and structures made of vibrodamping materials. The ship provides normal conditions for the crew to take meals and rest.

Zubr landing craft can carry three main battle tanks (up to 131 tonnes), or ten armoured personnel carriers with 140 troops (up to 115 tonnes), or up to 500 troops (with 360 troops in the cargo compartment).

At full displacement the ship is capable of negotiating up to 5-degree gradients on non-equipped shores and 1.6m-high vertical walls. Zubr remains seaworthy in up to 4 Sea States sailing on air cushion at 30-40 knots.

Personnel is protected against effects of weapons of mass destruction with airtight sealing of combat stations, crew and troops compartments, as well as individual gas masks and protection suits. The ship is also protected

### Basic specifications

Displacement, full load, t	550
Length, overall, on air cushion, m	57.3
Beam, overall, on air cushion, m	25.6
Height, overall, on air cushion, m	21.9
Flank speed, kts	60
Range, miles:	
at 55 knots, 131-tonne load	300
at 55 knots, 115-tonne load	400
Endurance, limited by food and fresh water stocks, days	5
Complement	33



from influence mines with the horizontal winding to compensate for the ship's and the transported materiel's magnetic fields. The central command post and MS-227 device compartments are strengthened with Amg-62T alloy armour.

### Main propulsion plant

The ship's main machinery includes three 10,000hp GGTA M35-1 gas turbine engines, two 10,000hp GGTA M35-2 superchargers, four NO10 axial turbochargers, and three AV-98 propellers.

Electric power is supplied by two GTG-100 100 kW gas turbogenerators.

The ship's movement and systems operation are managed by Flora-32 automated remote control system.

### Armament & Equipment

- two 30mm AK-630M automatic gun mounts (with MR-1213-01 fire control radar)
- two 140mm stabilised multiple rocket systems (with MS-227 launchers, DVU-3 fire control range-finder/sight)
- four Iglá MANPADS

#### Navigation equipment

- GKU-2 gyro direction finder
- KM-60-M2 magnetic compass
- RDL-3-AP100 Doppler drift log
- Rumb direction finder
- RS-1 navigation radar
- Baza central gyro stabilisation system
- Communications and surveillance systems
- Buran-6 automated communications system

- R-622 UHF radio
- R-697 radio receiver
- R-85SUM
- R-159 portable radios
- VNTs-452 day and night vision device
- P-405 loud speaker system
- MSNP-205M light signal device
- Electronic equipment
- MR-123-01 fire control radar
- MR-244-3 surface surveillance radar
- Zvezdochka-12322 ECCM equipment
- MP-411E device
- 6710-01 device



MS-227 rocket launcher

# PROJECT 12061E MURENA-E

Air Cushion Landing Craft



## Mission

Murena-E air cushion landing craft is designed to take landing assault units and combat materiel from equipped/non-equipped shores, large-displacement landing craft and transports and land them onto non-equipped shores or in shallow littoral waters, as well as to patrol littoral and naval base/port water areas.

## Features

Murena-E features improved structural and seakeeping qualities thanks to the use of advanced anticorrosive alloys, extruded profiles and panels, as well as a powerful propulsion plant.

The ship is fitted with integrated steering and equipment control system. Steering is accomplished by hydraulically-driven jet and aerodynamic rudders on commands of an aircraft-type control column in the pilot house.



Murena-E air cushion landing craft can carry either two infantry combat vehicles, or two armoured personnel carriers, or three light armoured vehicles, or two amphibious tanks, or one medium battle tank, or 130 fully equipped troops.

While sailing on cushion the ship can be operated and its weapons employed at wave height of up to 1.5 m and wind velocity of up to 12 m/s.

### Main propulsion plant

The ship's main propulsion plant is composed of two power units, each comprising one MT-70M gas turbine engine, transmission to the supercharger, and variable-pitch propeller. The main gas turbine engine includes

high- and low-pressure compressors and a combined power turbine.

The main propulsion plant inflates air cushion to provide ship's high obstacle negotiability on non-equipped shores, snow-covered and marshy areas, ice fields and rugged tundra, sandstones and waterways.

### Armament & Equipment

- two 30mm AK-306 light automatic gun mounts (2x500 rounds) controlled with an optical sighting device
  - eight Igla MANPADS
- Communications equipment

One HF radio, two VHF/UHF radios, magnetic tape-recording equipment.

### Basic specifications

Displacement, full load (with 24-tonne payload), t	about 150
Basic dimensions, m:	
length, on air cushion	31.3
beam, on air cushion	14.8
height overall, empty afloat/on air cushion ashore	10.5/15.2
Main propulsion plant	two MT-70M main gas turbine engines
Electrical power unit	two Volvo Penta diesel generators
Propulsors	two AV-96 air propellers
Full speed, on calm sea at full load, kts	not less than 55
Cruising range, with 24-tonne load at 50 knots, n.miles	not less than 200
Negotiability:	
non-equipped shore slope, from stopped position, deg	up to 6
vertical wall, m	up to 0.8
Endurance, days	1
Complement	12

# PROJECT 12421 MOLNIYA

Guided Missile Boat



## Mission

Project 12421 Molniya is designed to destroy enemy warships, transports, and landing craft in the open sea.

## Main propulsion plant

The boat is powered by two M15E-1 gas turbine engines (32,000 hp).

Electric power is supplied by one DGF2A 100/1500 and two DGR2A 200/1500 diesel generators. There are also two EKPA-2/150-4 electric compressors.

## Basic specifications

Displacement, full load, t	550
Length, m	56.90
Beam, midship, m	10.20
Depth, midship, m	5.31
Draught, full load, m	2.5
Speed, kts:	
maximum at +15°C	38
maximum at +34°C	34-35
economical	12-13
Range at economical speed, n.miles:	
full fuel load	1,700
max fuel load	2,400
Endurance, days	10
Payload, full, t:	
fuel	74.03
oil	2.01
fresh water	17.48

## Armament & Equipment

- Moskit-E anti-ship missile system (two KT-152ME launchers, four 3M-80E/3M-80E1 missiles, ZU-152ME and 3Ts-80E control systems)
- 12 Igla MANPADS
- 76.2mm AK-176M single-barrel gun mount (314 rounds)
- two 30mm AK-630M six-barrel cannons (3,000 rounds per each)
- PK-10 decoy system with two KT-216 dispensers

### Electronic equipment

- 3Ts-25E1/3Ts-25E surface target acquisition radar
  - MP-405-1E ECM system
  - Pozitiv-E/Pozitiv-ME1 air/surface target acquisition radar
  - MR-123-02/MR-123-02Ts artillery fire control system
- ### Navigation equipment
- NaviBridge-2400 integrated navigation system
  - Pastilshchik-D gyroazimuth/horizon compass
  - KM 69-M2 magnetic compass
  - IEL-1 electromagnetic log
  - NEL-M3B navigation echosounder
  - RN direction finder

# PROJECT 12418 MOLNIYA

Guided Missile Boat



## Mission

Project 12418 Molniya guided missile boat is designed to destroy warships, transports, and landing craft in the open sea.

## Features

- Weapon employment in Sea States up to 4 without course/speed limitations at max allowed propulsion power, and in Sea State 5 at a speed of up to 22 knots inclusive;
- Safe seagoing ability at reduced speeds in Sea States 7 and 8;
- Innovative design incorporating over 30 inventions.

## Main propulsion plant

The boat is powered by a two-shaft GGTA M15E1 gas turbine propulsion plant.

Electric power is supplied by one DGF2A 100/1500 and two DGR2A 200/1500 diesel generators.

## Armament & Equipment

- one Uran-E anti-ship missile system, comprising four 3S-24E quadruple launchers, 16 3M-24 anti-ship missiles in transport-launch containers, and 3R-60UE fire control system
- one 76.2mm AK-176M gun mount (314 rounds)
- two 30mm AK-630M1-2 six-barrel rapid-

- fire cannons (4,000 rounds per cannon)
  - 12 Igla MANPADS
  - four KT-216 launchers of PK-10 close-range decoy system
- Electronic equipment
- Pozitiv-E air/surface target acquisition radar
  - Monument-E surface target acquisition and designation radar
  - MP-407-E ECM system
  - Liman navigation radar
  - Podzagalovok-24E mutual interference avoidance system, etc.

## Basic specifications

Displacement, full load, t	510
Basic dimensions	
(length x beam x draught), m	56.9 x 10.2 x 2.4
Main propulsion plant	gas turbine
Electric power supply	three diesel generators
Number of propellers	2
Speed, kts:	
maximum at +15°C	39-40
maximum at +34°C	35-36
economical	12-13
Operational range, at economical speed, n.miles:	
with full fuel load	1,450
with max fuel load	2,300
Endurance, days	10