

Brief history and description of missile

R-73 (NATO AA-11 Archer) is short range air-to-air infrared homing missile. Along with R-27 it was designed in 1970s for latest Soviet fighters (Su-27 and MiG-29) to complement their high maneuverability with its extreme agility. At the beginning it was thought of as a development of R-60, but soon it became apparent to engineers at "Molnia" design bureau that range and maneuverability require larger airframe and new approach. One of preliminary design dispensed with front control surfaces altogether, and the missile was left with six hexagonally placed fins at the back end. This however put additional emphasis on thrust vectoring and had adverse effect on range and operation. Aerodynamic scheme somewhat resembling R-60 - with vortex generators in front of control surfaces - was accepted in the event. First test firing took place in 1978, first air launches - in 1980, along with state trials. It was officially accepted and put in service in 1984.

Wide aspect infrared seeker head, coupled with helmet mounted cueing system, 0.3km minimal range, effective aerodynamics and thrust vectoring make this missile extremely effective in close visual combat.

Further variants:

R-73E - export variant

R-73M1/M2 - progressively improved overall performance

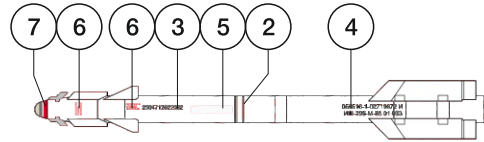
K-74ME - range extended from 30 to 40km

Operational missiles are white with some black and red stenciling.

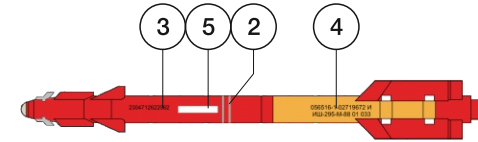
Training missiles, as with other russian air-to-air guided weapons, are marked with three black stripes at the back of fuselage, and lack front AOA vanes.

There are some photos showing test articles in various shades of red and orange - with all features of operational missiles. It seems as though reds and oranges proved to be better visible upon overcast sky - opposite to US experience with Douglas D-558-I Skystreak and Bell X-1 experimental aircraft which switched from orange/red to white livery for better visibility against clear Mojave sky.

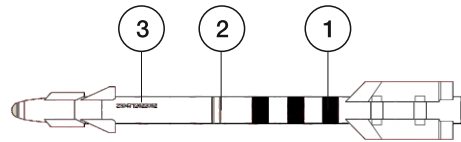
Colors and markings



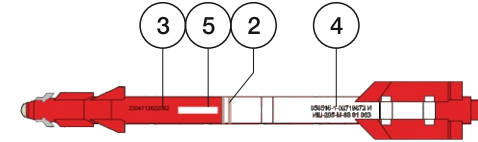
Default R-73: overall white, red band around nose (live warhead), aluminium AOA fins.



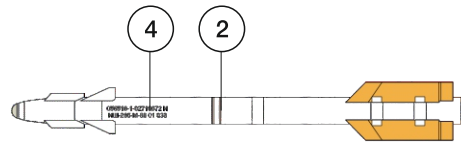
Hi-viz test R-73 scheme: Red (FS11302) and orange (FS12246).



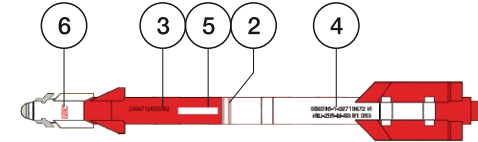
Training R-73: overall white, black stripes, no AOA fins.



Hi-viz test R-73 scheme: Red (FS11302) and white.



Training R-73: overall white, orange (FS12246) wings, no AOA fins.



Hi-viz test R-73 scheme: as above, but with white front.