

ULTIBALLAST

# Proven performance

High Density Ballast installed in six of the most advanced ships of their type in the world

## The Challenge

The new generation of Type 45 Destroyers were the most advanced ships of their type in the world. In total six ships were commissioned costing £1.2bn. Smaller than their predecessors, these ships have a speed of 30 + knots and a displacement of 8000 tonnes. Tarmac was approached by the designers and builders to supply and install ULTIBALLAST within the ships to assist maneuverability, stability, incline at high speeds and in adverse weather conditions.

## Our Solution

Working with the Senior Naval Architects and ship builders our experienced and team were able to help the design team to identify the optimum density required to ensure stability in all weathers and speeds. The density selected was 5.6 tonnes/m<sup>3</sup>, with a total weight of 263 tonnes needed per ship. As stability is critical for safety, the team were given one week for the installation, before full sea going trials were undertaken to complete commissioning. ULTIBALLAST was produced at a local Readymix plant under the direction of a Tarmac technical team who ensured compliance with rigid quality control procedures.

## Results and benefits

The ULTIBALLAST installation crew had previously installed a complex array of pipes and valves through the ship to the discharge points. Pumping began through a 36m concrete pump under the direction of the Installation Manager. They continually monitored the pipe work, pumping pressures and levels, to ensure that exact amount of ULTIBALLAST to the discharge points was achieved.

On completion of the installation, the pipe work was removed, and the area cleaned and handed back to a delighted ship builder. The following week sea trials for incline and stability were completed successfully.