



ANCALA
WATER SERVICES

CASE STUDY

Supplying water to ships using a sustainable pipework solution

01 THE BRIEF

Ancala Water Services were appointed by the Ministry of Defence to lay 1.4km of new potable water pipework across a major Sea Mounting Centre. From a connection point outside the main entrance, we installed a new pipeline to supply potable water direct to ships docked at the jetty.

The project involved excavating across the docks main landing areas to run the pipework through the dock wall and onto the jetty where new ship to shore connections were installed.

Due to the long length of supply pipework required across the site, options were considered that would be both cost efficient and more sustainable, whilst also being easier to handle on a congested dock.

Consideration was given to the required duty of the pipework which would be subject to large transient pressures through cycles of usage while ships were in dock.

AWS leveraged its strong supply chain relationships to establish a solution which utilised the latest technologies to create cost and environmental savings using pipework called "Molecor PVC-O".

TOPIC

Sustainable Solutions

AIM OF THE PROJECT

Installing a new potable water main utilising a lower carbon impact solution



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Due to their light weight, the pipes can easily be handled on site without the use of machinery. They are between 6-12 times lighter than ductile iron pipes of the same diameter.

This reduces the amount of labour and machinery required for installation providing significant environmental benefits due to reduced emissions across the project lifecycle. PVC pipework is also more durable to ground movements and less likely to fracture and leak.

The engineered precision of the internal surface of the pipework also creates less friction and reduces pumping costs and electricity required to pump the water to its point of use.

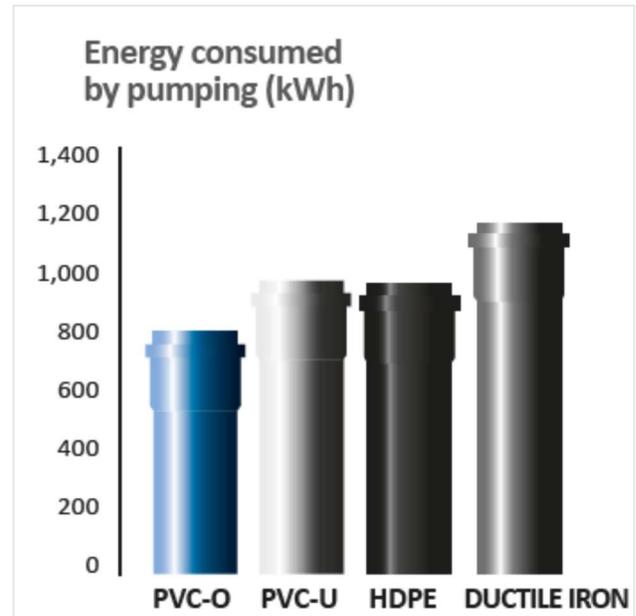


Fig 1 – Energy consumption by pumping between types of pipework

02 THE SOLUTION

Molecor PVC-O pipework was identified as a technically acceptable alternative to traditional HDPE and Ductile Iron water pipework. On this pipework alone, the overall project emissions will be reduced significantly with CO2 savings made in production, installation and ongoing operations. This project perfectly demonstrates our corporate value of “we care about the environment”.

03 THE RESULTS

The use of Molecor pipework has enabled speedy and efficient installation on site, with reduced vehicle movements for delivery and installation. In addition, whole life costs for pumping will see a reduction in energy used and subsequently a reduction in CO2 emissions annually. Due to the large amount of excavated material, we were keen to ensure that we maximised the use of recycled aggregate to minimise the use of landfill. Throughout the project, 99.94% of waste concrete & asphalt was diverted for recycling with only 0.06% going to landfill.

1.4km

Units Installed

£30,000

Cost saving over alternative pipework

4.65t CO2

Estimated CO2 tonnes saved over pipework lifespan



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