

November, 2015

ILLAWARRA MANUFACTURER OF 'WORLD CLASS ARMOUR PLATE' AIMS TO BENEFIT FROM GERMAN SUBMARINE BID

[Bisalloy Steels Pty Ltd](#) located in Unanderra, near Wollongong, is regularly credited as producing world class armour plate.

It's a well-earned reputation, one which clearly interested German submarine manufacturer ThyssenKrupp as it prepares its bid to supply new submarines to the Australian Navy. This is for the Federal Government and Department of Defence's 'SEA 1000 Future Submarine Program'. The Program is a high-value, high-skills national infrastructure project that can deliver substantial long-term benefits to the Australian economy.

Bisalloy Steels is one of many Australian businesses which met with the German manufacturer during its recent roadshow of meetings with potential suppliers held in major centres across Australia.

Overseeing the German bid in Australia is ThyssenKrupp Marine Systems Australia (TKMSA). Dr John White, Chairman of TKMSA, said: "We were keen to meet with the Bisalloy Steels' team in Unanderra given their track-record of supplying world class armour plate across a number of defence applications, notably for submarines. This track-record also provides a great template for how we will actively partner with local manufacturers and service suppliers should our bid be successful."

Bisalloy Steel Group's Managing Director, Mr Robert Terpening, noted, "Bisalloy Steels' special steel for defence applications is already used in the hulls of locally produced Collins class submarines, FFG 7 guided missile frigates, some components in Air Warfare Destroyers, the protective panels of Australian-made Bushmaster Infantry Mobility Vehicles and turrets of upgraded M113 vehicles."

"We look forward to being a supplier to Australia's Future Submarine Program. We are impressed with the TKMSA team and its proposed partnering and technology-sharing program in Australia should it be successful with its bid. Should TKMSA be appointed to build Australia's new submarines, our goal is to work with them to supply the specialised heat treated steel which submarines require," Mr Terpening said. [Note: A comprehensive summary of Bisalloy Steels Pty Ltd and its track record in defence supply is attached.]

Dr John White noted: "As the most experienced designer and builder of conventional submarines, we have been very impressed with the calibre and track record of Bisalloy Steels and other Australian companies we've met with recently. We base this evaluation on delivering more than 160 submarines across 20 different navies."

“Importantly, we have partnered to build some 50 submarines in our customer’s home country.”

“We are committed to establish a naval service centre in Australia to serve the APAC region. Indeed, we have already demonstrated our ability to transfer naval vessel design and production technology with around 70% local industry participation; notably locally with the ANZAC frigate program. Importantly, we provide the world’s largest submarine industrial support base for diesel-electric submarines and will replicate that naval industry capability in Australia.”

Read more at [About ThyssenKrupp Marine Systems](#)

TKMS is the world’s largest submarine manufacturer and has designed and built submarines for some 160 countries. The company is actively engaged in programs across a number of countries to design, build and maintain submarines and continues to develop the most technologically advanced hardware available to meet changing defence requirements.

Read more at <https://www.thyssenkrupp-marinesystems.com/en/home.html>

[About ThyssenKrupp AG](#)

ThyssenKrupp is a diversified industrial group with traditional strengths in materials and a growing share of capital goods and services businesses. Around 155,000 employees in nearly 80 countries work with passion and technological expertise to develop high-quality products and intelligent industrial processes and services for sustainable progress. Their skills and commitment are the basis of our success. In fiscal year 2013/2014 ThyssenKrupp generated sales of around €41 billion.

Read more at <https://www.thyssenkrupp.com/>

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Overview of Bisalloy Steels Pty Ltd

Bisalloy Steels Pty Ltd, a company with less than 100 employees, located in Unanderra near Wollongong, is Australia’s sole supplier of high strength and high hardness steel products for military applications.

Bisalloy Steels’ internationally recognized capability began in 1984 with an order for hull plates to be used in the local construction of two FFG 7 guided missile frigates. In cooperation with BHP Steel (now

known as BlueScope Steel) in Port Kembla and the Defence Science and Technology Organisation (DSTO), Bisalloy Steels produced HY 80 steel plates, to a US MIL specification, that significantly outperformed the equivalent US manufactured steel plate.

After five blasts with 15kg of Pentolite high explosive, the Bisplate® HY 80 plate was stretched to the point where its thickness had reduced by 29.9 per cent without fracturing. The specification called for only 16 per cent thickness reduction without fracture. Australia's four US built FFG 7 frigates were subsequently retrofitted with the Bisplate® HY 80 plate. Bisalloy produced approximately 1000 tonnes of steel for the FFG program.

At the end of the 1980's Bisalloy Steels was contracted to supply heat treated steel plate for the Collins class submarines.

Working again with BHP Steel (now known as BlueScope Steel) in Port Kembla and the DSTO, Bisalloy successfully produced the Bisplate® 812EMA plate; a weldable, micro-alloyed, high yield stress steel with excellent low temperature impact properties that had, up until then, been an experimental Swedish product in its embryonic developmental stage. Bisalloy Steels went on to supply more than 8,000 tonnes of Bisplate® steel over 15 years for the submarine program.

During the late 1990's, the development of a new breed of protected infantry mobility vehicle under Project Bushranger, led to the design of the Bushmaster IMV. The vehicle had to be capable of withstanding mine blasts and side impact from high velocity small arms ammunition.

For the Bushmaster vehicle, Bisalloy Steels, in cooperation with DSTO, created new high hardness armour (HHA) plate from specially produced BlueScope steel. The 'green feed' product from BlueScope Steel is subsequently quenched and tempered to produce a grade of armour plate rated to the highest levels of performance.

Since 1993, Bisalloy Steels has produced over 5,000 tonnes of steel for the Bushranger program.

The science, technology and manufacturing processes developed for the production of these low sulphur, micro alloyed steels has flowed on to the production of all Bisalloy Steels' quenched and tempered steel products, including for commercial purposes.

Bisalloy Steels' Quality Assurance system meets the requirements of ISO 9001, with stringent quality controls developed in order to qualify the performance of materials being used in commercial or military critical products.

Bisalloy Steels' personal protection and defence business providing armour plate solutions is an important part of its market offering, domestically and internationally.

While support to domestic armour plate users has been a key responsibility of Bisalloy Steels, the quality, range and supply readiness of Bisalloy Steels' armour plate has seen a network of supply channels provide customers in the USA, Asia, India and the Middle East with solutions to their armour protection needs. During this process several foreign governments in these regions have qualified Bisalloy Steels' armour plate for use by their militaries.

Bisalloy Steels is also an invitee on international working groups and panels defining standards for the next generation of Ultra High Hardness steel for armour applications.

Bisalloy Steels has the technical capability to design, develop and manufacture a wide range of high strength and high-hardness steels for Australia's defence equipment needs. For more than 30 years the Bisalloy Steels' story has been one of working in conjunction with an Australian steel producer, defence scientists, international organisations and manufacturers of military ships and vehicles, to produce some of the best armour plate products in the world.

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