

# Australian Market Questionnaire Response

**Case number:** 578

**Product:** Quenched and Tempered Steel Plate

**From:** The United States of America

**Investigation period:** 1 January 2020 to 31 December 2020

**Response:**

## **Toomey Earthmovers:**

### **Summary of our Use of Q&T Plates**

Toomey Earthmovers manufacture medium to large earthmoving equipment, primarily tractor drawn scrapers. Approximately 90% of the steel used in the construction of our scrapers is Q&T plate, both 450 grade wear plate and 700Mpa structural steel. The Q&T plate in our machines is exclusively SSAB plate. As such experience with welding Q&T plate is limited to SSAB products however our manufacturing side has extensive experience machining and bending other brands including Bisalloy.

### **Products in the Australian market**

1. Generally describe the range of the goods offered for sale in the Australian market. Your description could include information about:

- quality differences;
- price differences;
- supply/availability differences;
- technical support differences; and
- product segmentation.

I'm going to assume SSAB is the target of this investigation so my comparisons will be limited to our observed differences between SSAB materials and Bisalloy materials.

- a) **Quality Differences:** In general we have experienced differences in quality and behaviour from Bisalloy 450 wear plate in both bending and machining. Specifically, with pressing we had a batch of 5 and 6 mm bucket skins to press for a customer and we had many issues with consistency of the material. Our machines are new and have proven to be very repeatable yet we had to spend more time trying to match the templates than with any of our own products cut from Hardox 450. Even with the part resting in the machine and matching the template within a millimeter or two, once removed and rested on a pallet for shipping the parts would either spring open or closed by up to 10mm. This issue was raised with a rep from a Bisalloy Stockist and their response was that Bisalloy have a lot of problems heat treating thin plate and it was most likely Chinese processed material.

With Bis80 we did have a large batch of parts which we pressed for a customer which had great variations in behaviour and our operator had to measure and adjust each bend to get it in tolerance as we were seeing variations with same offsets of up to 2 degrees. We have completed repeat batches of the same part after that initial order which gave consistent bend results (<0.5 DEG)

We have completed several large machining projects where we have drilled and countersunk 450Gr Wear plates. Quantities were in the order of many hundreds each time. We also had similar parts for similar applications being machined at the same time for 2 different customers. One customer had supplied Hardox 450 and the other had supplied a mix of Chinese 450 Wear Plate and Bisalloy450. The cutter load and noise generated from drilling and chamfering the Bisalloy and Chinese material was similar however the hardox had a louder noise. At the start of machining the twin pallet milling machine used had a pallet setup for the hardox plates and a pallet setup for the other plates. After the 200 hardox plates were complete the machine was setup to run two pallets of the other wear plate. When there was a mix of all 3 brands being processed the carbide inserts in the chamfer cutter were requiring changing after 45 minutes of cut time. The inserts could be pushed up to 80min with constant supervision. Once the hardox plates were complete and it was only the Chinese and Bisalloy plate being processed the chamfer inserts were lasting over 120 minutes. When this fact was raised with a representative of the customer who had supplied the Bisalloy and Chinese material they stated that it was because the hardox is hard through the complete thickness yet the other two are only hard on the surface. I requested mill certificates for the material supplied for that job to include in this submission but the customer was not accommodating.

- b) **Price Difference:** Our SSAB parts are provided already profile cut so we aren't purchasing raw plate ourselves. Approx. 5 years ago we were purchasing and profiling our own plate but our current supplier priced to supply the parts for us and their profiled price was not much more than our plate buy price. About 6 months ago I had a second supplier quote a large batch of parts for me as a price check. Their pricing for 700gr was within several percent of our current suppliers price for Strenx700 but their price for 450 wear plate was 5-10% cheaper. When inquiring about what plate they had allowed for they advised Bisalloy. When asked to quote the job with SSAB material they said they could not get competitive pricing from SSAB and would not be able to compete.

When repricing further bucket skin pressing jobs I advised the customer that the prices quoted previously I would hold if SSAB materials were supplied but if Bisalloy material was supplied the price would need to be 20% higher to cover the past issues we had with consistency. The customer opted to pay the extra costs and supply Bisalloy. They had obviously done the numbers and decided it would be more economical to process the cheaper material and pay the increased press costs.

- c) **Supply/Availability Differences:** We don't have any comment on the supply/availability differences as we don't source Bisalloy materials for our own products. Our only comment is that several years ago there was a major fire in one or more of SSAB's processing plants which has a huge impact on supply. When the supply deficit hit Australia and everybody went seeking alternate supply Bisalloy was unable to fill the gap and there were major shortages for months. This effect could very well have been exaggerated by customers and suppliers stockpiling materials which then affected the smaller consumers who weren't aware of the issues.

d) **Product Segmentation:** Im not sure how product segmentation comes into play. The only instance where this could apply is SSAB's Strenx and StrenxMC products. They have similar mechanical properties but are manufactured by 2 different methods, one being a plate mill and one being a strip mill. No need to go into detail but the end result is the StrenxMc is not available in as wide a sheet as the Strenx product however the thickness tolerance is much tighter. The downside of StrenxMC is it has no weldable primer coating like Strenx and Hardox. Speaking of which, to my knowledge and from the Bisalloy materials we have been supplied to process, they have no primer type coating to distinguish between their grades. With our own products cut from Hardox or Strenx the colour of the coating gives us a quick visual check to make sure it has not been cut out of the wrong material. This is not possible with Bisalloy.

2. **Describe the end uses of the goods in the Australian market from all sources.**

The SSAB materials we purchase are used in our own scrapers we manufacture and send over the country and overseas. The SSAB materials we process for our customers are primarily used in the transport industry, ie trailer manufacturing.

The Bisalloy materials we process for our customers are used in earthmoving, bucket skins and hopper side walls as well as rail applications.

3. **Describe the key product attributes that influence purchasing decisions or purchaser preferences in the Australian market (eg price or particular performance attributes). Rank these preferences or purchasing influences in order of importance.**

- 3.1. **Consistency:** Our most important criteria is consistency. Consistency in thickness, flatness, strength, hardness etc. We press a huge percentage of our plate with brake presses and mechanical properties and thickness variations play a huge role in the costs to produce a part. Over the past 3-4 years of pressing plates in house on our own equipment, SSAB material has proven to be repeatable, not only from part to part but also batch to batch. All our bending programs are saved and reused as the same parts are processed time and time again and the repeatability from batch to batch has been good. Part to part is outstanding with little to no adjustments needed from part to part. The European manufactured material is superior to the USA manufactured material in ductility but we have found the other attributes to be equivalent. The volume of Bisalloy material we have processed over the past 3 years would only be a small percentage of the SSAB material but we have found a variation in consistency. Some batches of supplied parts are consistent and repeat well and some supplied parts have massive variations. Its impossible for us to tell but our thoughts have been that when we get consistent Bisalloy parts its most likely they are all from the same plate and when we get inconsistency its likely those parts were cut out of multiple plates.
- 3.2. **Availability:** Our next most important criteria is availability or the capacity to supply. Having a supplier run short when we need material has a huge impact on our operations. In the current climate our supplier has been able to supply SSAB materials with minimal impact. This is great for us considering our consumption of steel in the last 12 months has probably more than doubled over the previous years on average.
- 3.3. **Price:** Price is important for us but its more about value for money than total dollar value. Features which add value to us is the weldable primer added to hardox and Strenx plates. We don't have the luxury of huge amounts of dry storage for our parts as they progress through the manufacturing sequence. The ability to store the profiled plates out in the weather for weeks to months without significant time being added to the fabrication process for grinding off rust is of great worth to us. This fact also results

in our preference for Strenx to be used in larger parts as opposed to StrenxMC which has no coating and rusts out in the weather quickly.

4. Describe the process by which you selected your suppliers of the goods and the key factors that informed that decision.

The supplier we currently use has been our exclusive supplier since we went away from purchasing directly and profiling the parts ourselves. They won the chance to supply parts profiled for us with their prices and have remained our exclusive supplier by their support and quick actions. If we identify an issue with a part they have supplied be it a problem with the plate itself or their profiling of it they will recut replacements asap and look into the cause at a later date.

5. What are the key differences between locally made goods and imported goods? How do these factors impact your purchasing decision? Do you see the locally made goods and the imported goods as directly comparable or interchangeable in terms of end-use? Where you source the goods from more than one supplier or country (eg USA, China, Belgium) please detail the differences in the goods sourced from each supplier or country and the factors underlying your decision to purchase from each source.

To the end user of our equipment there may be no discernible difference in strength or wear between the plates supplied by SSAB and Bisalloy. But as a manufacturer, the locally made Q&T steel plate and that available from any other country are not directly comparable because of many factors, many which has been previously addressed but I will repeat again now. Costs are incurred in the processing of the plates when there are inconsistencies, primarily in thickness and mechanical properties. These costs are incurred when bending the materials and due to the cost of the equipment to bend the plates, the dollars per hour is high. The cost to bend Bisalloy plates over SSAB plates would be significant.

Our larger plates which won't fit on pallet racking are typically stored out in the weather and can be for weeks or months. If we were to use Bisalloy plate there would be costs added to the fabrication for cleaning the plate of rust. If the employees weren't to do that adequately we would have compromised weld joint strength and run the risk of weld failures.

6. How easily can you change suppliers? Provide a description of factors that may cause a re-evaluation of your supply arrangements and how you would implement such a change.

We could change suppliers easily enough however as discussed in the previous section there would be added costs above and beyond the plate costs which we would incur, especially going to Bisalloy material. Our experience has been minimal with other Q&T plate suppliers but from what we have seen, they have been pretty consistent and have had a weldable primer coating.

7. Have there been any changes in market or consumer preferences for the goods in Australia in the last five years? Do you anticipate any change in preference in the coming five years? If yes, provide details including any relevant research or commentary on the industry/sector that supports your response.



We have been doing the same thing for about 7 years. The agricultural market which we serve is heavily affected by the weather and seasons. I don't think any of the changes in consumer preference would have any relation to the steel that our machines are manufactured from.

Photographs:



Inconsistent 5/6mm Bisalloy450



Inconsistent Bis80





Mix of Bis450 and Chinese 450 Wear plate to be drilled and countersunk

