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# MODEL MATCHING CONCERNS

Meeting with Anti-Dumping Commission

Melbourne

27 June 2019

[libertygfg.com](http://libertygfg.com)

MEMBER OF



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Introduction : [Name – structural engineer]

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[Confidential details of structural engineer]

# Model Control Codes

- Accurate and transparent model matching is fundamental to the integrity of the anti-dumping system as it determines whether a fair comparison is made between the export price and the normal value.
  - Fundamental to determining if dumping has occurred.
  - If dumping is found to have occurred, accurate model matching also determines the level to which measures should be imposed to remove injury caused by dumping to Australian manufacturers and producers.

# Model Control Codes

- Australian industry players generally supportive (Australian Paper, BlueScope, Capral, Liberty Steel), subject to:
  - Fundamentally technically correct
  - Being consistently applied
  - Forming the basis for EQR responses
  - Proposed changes open for consultation
  - Being transparent

# Model Control Codes

## ➤ Concerns

- Commission doesn't have the technical/market knowledge across all product groups to make a proper assessment of models.
  - Errors in MCC classification driving incorrect dumping margin outcomes
  - Not transparent with no steel grade disclosure
  - Exporter changes to MCC categories readily accepted without opportunity for Aust Industry to contest.
  - Not clear if/how exporter MCC classification has been verified (test certificates or Standards, mandatory or optional criteria?)
  - No direct match across MCC categories driving a move to constructed NV
  - Errors in model matching are unable to be remedied by the ADRP as they also don't possess the technical knowledge required.
- 
- (examples include: INV 495, REV 486 & 489, REV 499 & CONT 505)

# Model Matching

Basic criteria for long steel products affecting price comparability

- **Shape/form**
- **Size**
- **Grade**
  - Minimum yield strength (as specified by Standard)
  - Chemistry control for welding (carbon equivalent value specified by Standard OR maximums specified for chemical elements particularly carbon and manganese)

When assessing the most comparable domestically sold grade/s to the export grade:

1. Compare Standard to Standard (minimum yield strength, chemistry control/CE) (PREFERRED)
2. **DO NOT compare domestic sales test certificates with the export Standard**

# Model Matching

DR AS/NZS 4671:2019

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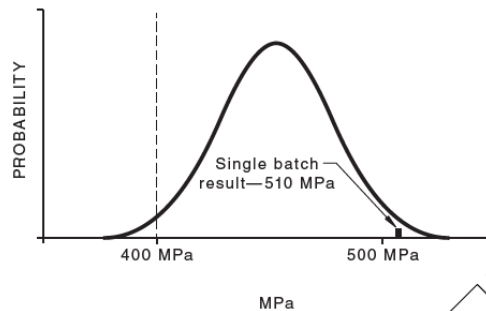


Figure E.3 — Product A — Long term quality data

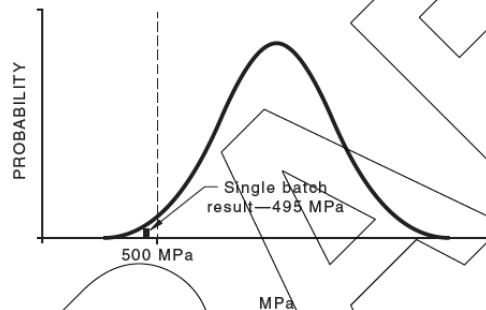


Figure E.4 — Product B — Long term quality data

If the long-term quality results were used to select the reinforcing material, Product B would be the clear choice as it meets both the product conformity requirements of this Standard and the design methodology of AS 3600. The long-term quality test results for Product A indicates that the facility is actually making 400 MPa product and the single test result is consistent for that facility making that product. The long-term quality test results for Product B indicates that the facility is making 500 MPa product. While the single test result is below the  $C_{VL}$ , the facility is consistently making product, which exceeds the  $C_{VL}$  of 500 MPa with at least a 95 % probability. Furthermore, the long-term quality results for Product B indicates that it is consistent with the probabilistic design methodology employed in other Standards.

## E.4 Test certificates

The minimum requirements for manufacturing reports and certificates (when supplied) are covered in [Clause 10.4](#). The long-term quality data for the facility making a particular product may be included in the certificate, but the certificate must include a statement that the products supplied conform to the requirements of this Standard. This is recognition that long term test data are the most significant criteria to determine whether the tensile properties meet the product conformity requirements of this Standard.

The request for or supply of a batch test report, which relates only to a specific element of reinforcing steel, is not recommended and the reasons for this are explained in the text above. It would be relevant only if the manufacturer has not established a long-term quality data set. In such cases the minimum test results would be those from type testing.

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# Reference - Chemistry control for welding

**SteelConstruction.info**

The free encyclopedia for UK steel construction information

- ▶ “All structural steels are essentially weldable. However, welding involves locally melting the steel, which subsequently cools. The cooling can be quite fast because the surrounding material, e.g. the beam, offers a large 'heat sink' and the weld (and the heat introduced) is usually relatively small. This can lead to hardening of the 'heat affected zone' (HAZ) and to reduced toughness. The greater the thickness of material, the greater the reduction of toughness.
- ▶ The susceptibility to embrittlement also depends on the alloying elements principally, but not exclusively, the carbon content. This susceptibility can be expressed as the 'Carbon Equivalent Value' (CEV), and the various product standards for carbon steels standard give expressions for determining this value.”

$$CE = C + \frac{Mn}{6} + \frac{Cr + Mo + V}{5} + \frac{Ni + Cu}{15}$$

Comparing “carbon content” is meaningless, carbon equivalent takes other key chemical elements into account also.



## Example 1: Grade classification by exporters complex and difficult to assess

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Tung Ho Submission EPR499/008 – Liberty Steel notified incorrect classification at briefing

Identifier	Sub-category
2	Carbon steel for general structure (SS400, A36, A709G36, 3679G300, G300S0, S235JR, S275JR, S275J0, ABSGA)
4	Carbon steel for welded structure (SM400A, SM400B)
5	Alloy steel for welded structure (SM490A, SM490B, SM490BD, SM490BM, SM490YA, A572Gr50, A572G50A, A572G50B, A992, A992M, A709G50, G350L0, S355JR, S355J0, S355J2, S450J0, BVAH32)
6	Carbon steel for building structure (SN400A, SN400B, SN400BF)
7	Alloy steel for building structure (SN490B, SN490BD, SN490C)

- Incorrect classification of 3679G300 – for welded structure, not general structure.
- SS-grades – for general structure, no chemistry control required (no CE or maximums for C, Si, Mn)
- SM-grades – for welding, must control chemistry (limits on elements C, Si, Mn or has CE)

Lack of technical knowledge and ability to easily assess the extensive lists of grades provided by the exporters means that the Commission is accepting incorrect propositions.

Exporters urging the Commission to not re-visit the grade sort/match for the sake of consistency with previous investigations even if findings were incorrect.

The above have been verified by the Commission's verification teams in the original investigation and subsequent review of measures inquiry, together with subject of numerous submissions to counter opportunistic attempts by the applicant to have higher value/cost goods compared to goods exported to Australia.

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## Example 2: Grade classification by exporters not corrected when wrong

### Example (499/505): Dragon Steel EQR

“The only steel grade sold to Australia in POR is AS/NZS 3679.1:2016-300, of the [general structural steel application](#).”

For domestic models:

“Steel grades for the applications of general structure, welded structure, building structure, and High-Strength Low-Alloy Columbium-Vanadium Structural Steel were sold in domestic market in POR. The specifications include:

<i>Application</i>	<i>Specification</i>
<i>General structural steel</i>	<i>JIS SS400 、CNS SS400 、ASTM A36</i>
<i>Rolled Steels for Welded Structure</i>	<i>CNS SM400B 、JIS SM490A</i>
<i>Rolled Steel for Building Structure</i>	<i>CNS SN400YB 、CNS SN490YB 、 CNS SN400B 、CNS SN490B 、CNS SN490B MOD</i>
<i>High-Strength Low-Alloy Columbium-Vanadium Structural Steel</i>	<i>ASTM A572 GR.50</i>

Grade SS400 which has no chemical spec for C, Si, Mn and a min yield strength well below 300MPa considered by exporter to be best match for Grade 300. Without disclosure, assumed to be accepted by Commission?

## Example 3: Changes to MCCs on basis of claims of better alignment with the Australian Standard accepted when wrong

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### Tung Ho Steel Verification Report (499 & 505)

*"Tung Ho changed the 'thickness' category of the MCC for the purposes of the verification. The original MCC category for thickness has two categories: minimum cross sectional thickness less than 11mm or, greater than or equal to 11mm. Tung Ho changed this to minimum cross sectional thickness less than 12mm or, greater than or equal to 12mm to align with the Australian standard. The verification team accepted this amendment."* [Incorrect – Australian Standard uses 11mm thickness]

*"For weldability, Tung Ho identified the 'steel grade' (carbon or alloy) and use (building structure or welded structure) and said that these affected price. The verification team considered that it was appropriate to accept this amendment because it would result in more accurate comparison of models."* [Incorrect]

Commission MCC's for HRS

Prime	Non-Prime	Shape				Min yield strength (Mpa)		Min tensile strength (Mpa)				Thickness (mm)		Dimension (mm)		Weldability	
		UB 'I'	UC 'H'	Channels	Angles	<265	>=265	<400MPa	>=400 to <450	>=450 to <500	>=500	<11	>=11	<230	>=230	Ceq	No Ceq
P	N	I	H	C	A	A	B	A	B	C	D	1	2	S	L	Y	N

A prime example of why an independent technical expert needs to be engaged at the outset of the investigation

Tung Ho MCC changes - domestic models

Prime	Non-Prime	Shape				Min yield strength (Mpa)		Min tensile strength (Mpa)				Thickness (mm)		Dimension (mm)								Weldability				
		UB 'I'	UC 'H'	Channels	Angles	<265	>=265	<400MPa	>=400 to <450	>=450 to <500	>=500	<12	>=12	UB Narrow Flange W<230	UB Wide Flange W>=230	UC Narrow Flange W<360	UC Narrow Flange W>=360	Channel Standard	Channel Heavy	Tapered Flange Beam	Running Rail for MTR	Carbon Steel for General Structure	Carbon Steel for Welded Structure	Carbon Steel For Building Structure	Alloy Steel for Welded Structure	Alloy steel for Building Structure
P	N	I	H	C	A	A	B	A	B	C	D	1	2	1	2	3	4	5	6	7	8	2	4	6	5	7

Reference

Liberty submission

(499 & 505) :

Tung Ho grade

assessment against

specifications

Liberty Steel Grade Groups - Minimum Yield Strength <265 or >=265MPa					
Identifier	Sub-category	Grades	Standard	Standard Description	Min yield strength MPa
1	Minimum Yield Strength < 265MPa	SS400	CNS 2473 G3039-103 and JIS G3101-2010	Roller steels for general structure	235-245
		A36	ASTM A36-08	Carbon structural steel	250
		A709G36	ASTM A709-11	Specification for structural steels for bridges	250
		S235JR	BS EN 10025-2:2004	Hot-rolled products of structural steel	225-235
		SM400A	CNS 2497 G3057-103 and JIS G3106-2008	Roller steels for welded structure	235-245
		SM400B	CNS 2497 G3057-103 and JIS G3106-2008	Roller steels for welded structure	235-245
		SN400A	CNS 13812 G3262-103 and JIS G3136-2012	Roller steels for building structure	235
		SN400B	CNS 13812 G3262-103 and JIS G3136-2012	Roller steels for building structure	235-355
		SN400BF	?? Not in Standard/Tung Ho spec		235?
2	Minimum Yield Strength >=265MPa	S275JR	BS EN 10025-2:2004	Hot-rolled products of structural steel	265-275
		S275JO	BS EN 10025-2:2004	Hot-rolled products of structural steel	265-275
		3679G300	AS/NZS 3679.1	Structural steel Part 1: Hot-rolled bars and sections	280-320
		G300S0	AS/NZS 3679.1	Structural steel Part 1: Hot-rolled bars and sections	280-320
		SM490A	CNS 2497 G3057-103 and JIS G3106-2008	Roller steels for welded structure	325
		SM490B	CNS 2497 G3057-103 and JIS G3106-2008	Roller steels for welded structure	325
		SM490BD	?? Not in Standard/Tung Ho spec		325?
		SM490BM	?? Not in Standard/Tung Ho spec		325?
		SN490B	CNS 13812 G3262-103 and JIS G3136-2012	Roller steels for building structure	325-445
		SN490BD	?? Not in Standard/Tung Ho spec		325?
		SN490C	CNS 13812 G3262-103 and JIS G3136-2012	Roller steels for building structure	295-445
		G350L0	AS/NZS 3679.1	Structural steel Part 1: Hot-rolled bars and sections	330-360
		A709G50	ASTM A709-11	Specification for structural steels for bridges	345
		S355JR	BS EN 10025-2:2004	Hot-rolled products of structural steel	355
		S355JO	BS EN 10025-2:2004	Hot-rolled products of structural steel	355
		S355J2	BS EN 10025-2:2004	Hot-rolled products of structural steel	355
		SM490YA	CNS 2497 G3057-103 and JIS G3106-2008	Roller steels for welded structure	365
		S450JO	BS EN 10025-2:2004	Hot-rolled products of structural steel	450
		A572Gr50 (type 1?)	ASTM A572-07	High-strength low-alloy columbium-vanadium structural steel	345
		A572G50A (type 2?)	ASTM A572-07	High-strength low-alloy columbium-vanadium structural steel	345
		A572G50B (type 3?)	ASTM A572-07	High-strength low-alloy columbium-vanadium structural steel	345
		A992/A992M	ASTM A992-11	Specification for structural steel shapes	345-450
		ABSGA	ABS (American Bureau of Shipping)	Grade A - common strength shipbuilding steel plate	
		BVAH32	Bureau Veritas qualification for shipbuilding	Grade AH32 - high strength shipbuilding steel plate	

These grades exceed the minimum yield strength of 280MPa required for grades 3679G300 and 3679G300S0

These grades exceed the minimum yield strength of 330MPa required for grade 3679G350L0

These are plate grades for shipbuilding hulls - if

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## Example 4: Different yield strength grades classified in a single category accepted by Commission due to similar cost

### Habas Verification Report (495)

The exporter:

*"MCC for yield strength differences, these are imparted by minor variations in the quenching process **which are not separately costed.**"*

*"Habas sees no reason to differentiate between the MCC's B and C in the yield strength category of the MCCs for like goods comparison."*

Domestic sales models - Habas					
Prime	Non-Prime	Min yield strength			
		<=300	300-480	>480-550	>=550
P	N	A	B	C	D
1	X	X			
2	X		X		
3	X		X		
4	X		X		
5	X		X		
6	X		X		
7	X		X		
8	X		X		
9	X		X		
10	X		X		

Export sales models - Habas					
Prime	Non-Prime	Min yield strength			
		<=300	300-480	>480-550	>=550
P	N	A	B	C	D
1	X			X	
2	X			X	
3	X			X	
4	X			X	
5	X			X	
6	X			X	
7	X			X	

### Commission finding in verification report:

*"For the all seven of the export MCCs there [SIC] domestic market, there were no sales of identical like goods in the necessary specification yield strength, i.e. category C."*

Outcome: Impaired ability to assess whether there were in fact any suitable domestic sales in Category C, thereby keep within a TAC(1) normal value methodology.

## Example 5: Grade match done using domestic mill test certificates compared against export grade Standard requirements

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Statements made in REP223 show extent of lack of technical understanding that lead to incorrect grade/model matches. Technical errors are unable to be remedied by the ADRP

### REP 223 (HRS):

“Dr Hicks concluded that when both mechanical properties and chemical composition are considered, the products closest to the steel grades to G300 (AS/NZ 3679.1) are grades SM490B and SM490C (JIS 3106) and SN490B and SN490C (JIS 3136).”

“In this investigation, the Commission does not accept that like goods can be determined in the **narrow context of one physical characteristic, that being standards**. The Commission’s view is that standards are one relevant physical characteristic of HRS, as part of a broader range of physical characteristics to consider when assessing physical likeness.”

“To accept OneSteel’s contention, that is, **establishing normal values primarily guided by a comparison of standards would be to disregard the evidence obtained during the course of exporter verification in the form of mill certificates**. These certificates contain evidence of mechanical properties and chemical composition of the goods which establishes the actual physical specifications to which the goods are produced and sold. These certificates were important in establishing whether the physical characteristics of the goods produced in the domestic market are sufficiently similar to those produced for export sale for normal value purposes.”



## Example 5 (contd): Grade match done using domestic mill test certificates compared against export grade Standard requirements

### REV499/CONT505:

SYS Verification report

**“SYS further claimed that the MPa should be based on actual yield strength as denoted on the mill test certificate, which they had supplied details of for every sale.”**

“Having considered the evidence presented by SYS, the verification team considers that the MCC categories for yield strength should be based on the minimum yield strength in the relevant standard, not the actual strength on the MTC. This is because customers buy on the basis of the standard that the HRS meets, rather than the actual MTC results.”

### Tung Ho Verification report

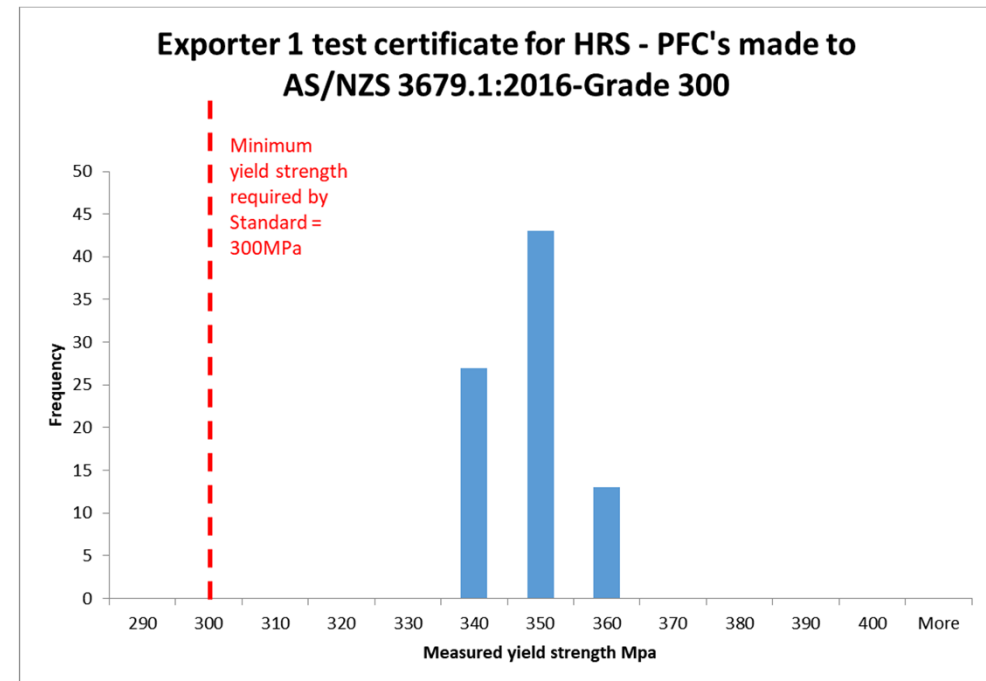
Minimum yield strength	This category was not used for model matching as all the goods sold by Tung Ho were > 265MPa. The verification team reviewed test certificates for selected samples and concluded that this was correct.
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Standards comparison is the only feasible option for all aspects of a technical grade match assessment. Exporters will argue that mill test certificates should be used.

Can NOT assess domestic grade test certificates against export grade Standard requirements – apples and oranges.

# Model Matching : Test certificates

*[Confidential: Test Certificate Exporter 1]*

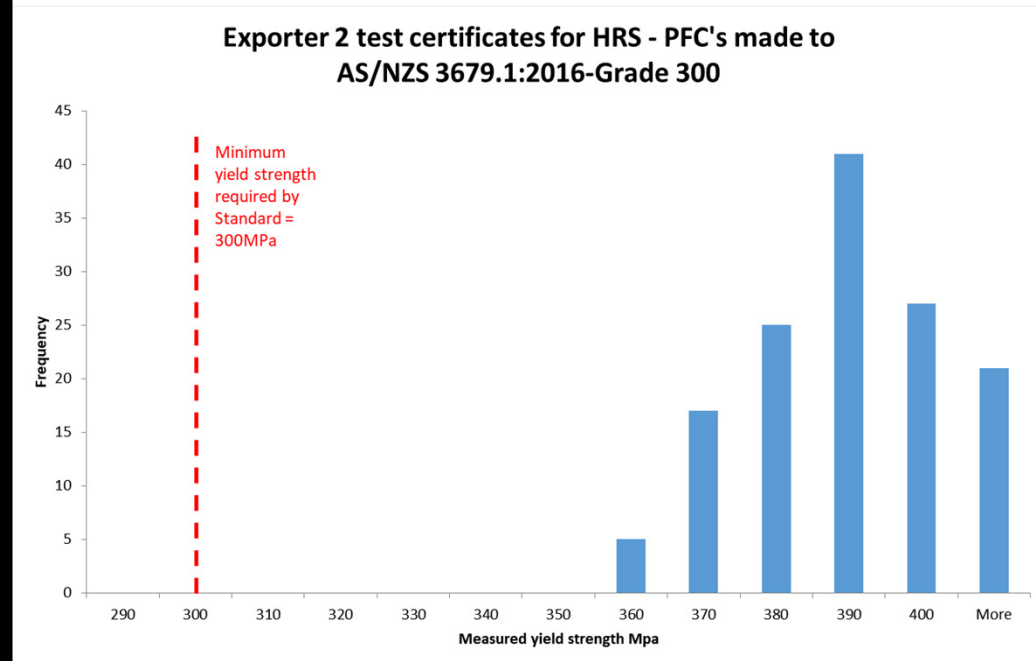


- 7 test certificates
- 84 test results



# Model Matching: Test certificates

*[Confidential: Test Certificate Exporter 2]*

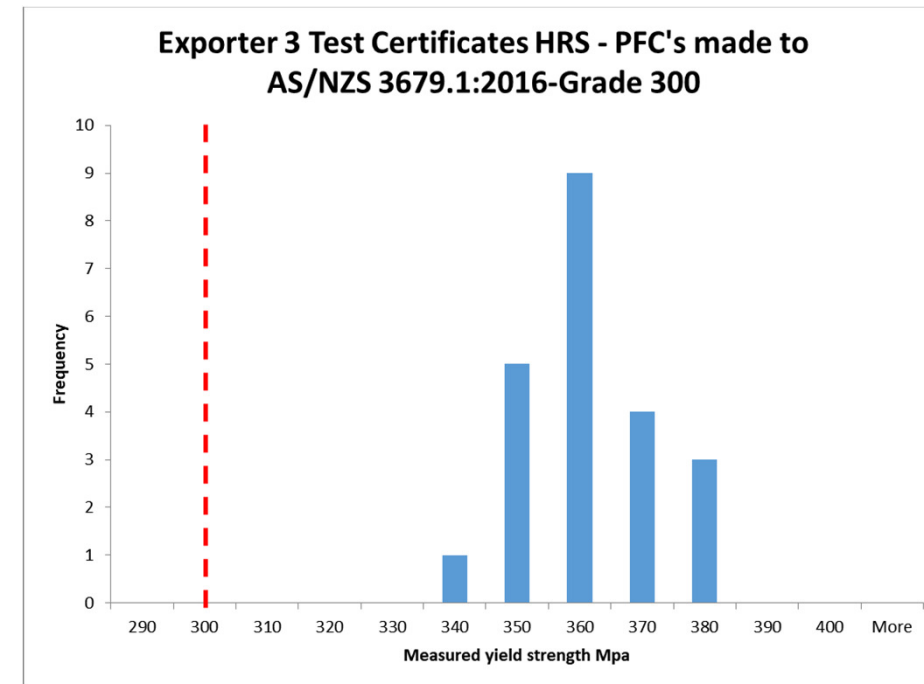


- 13 test certificates
- 137 test results

# Model Matching : Test certificates



*[Confidential: Test Certificate Exporter 3]*



- 2 test certificates
- 23 test results

# Model Matching: test certificates



## Structural Steel – Are You Getting What You Need?

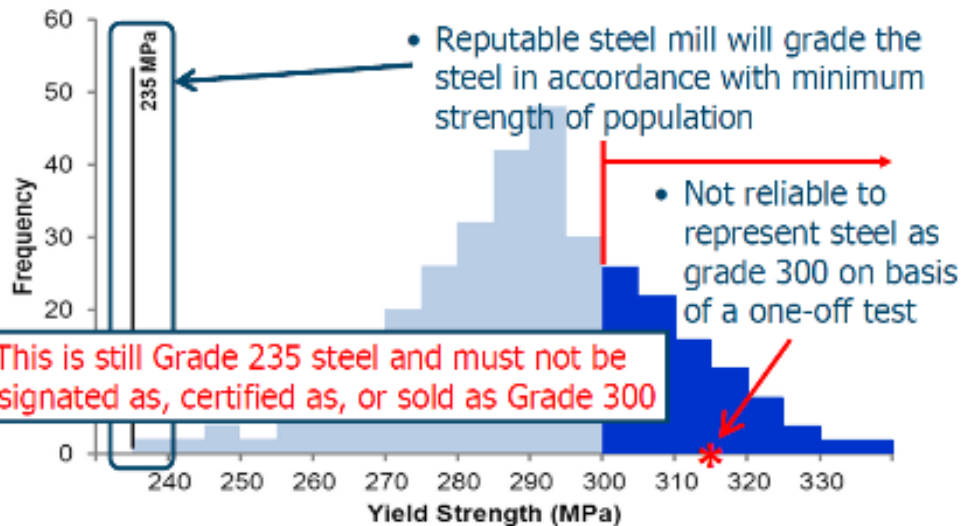
or “When Grade A is not A-grade”

Engineers Australia, Risk Engineering Society  
Brisbane, 27 October 2015

## Grading by test

❖ In a typical steel mill, single heat 100+ tonnes

- Rolled to give ~3000m of product
- Statistical distribution of strengths



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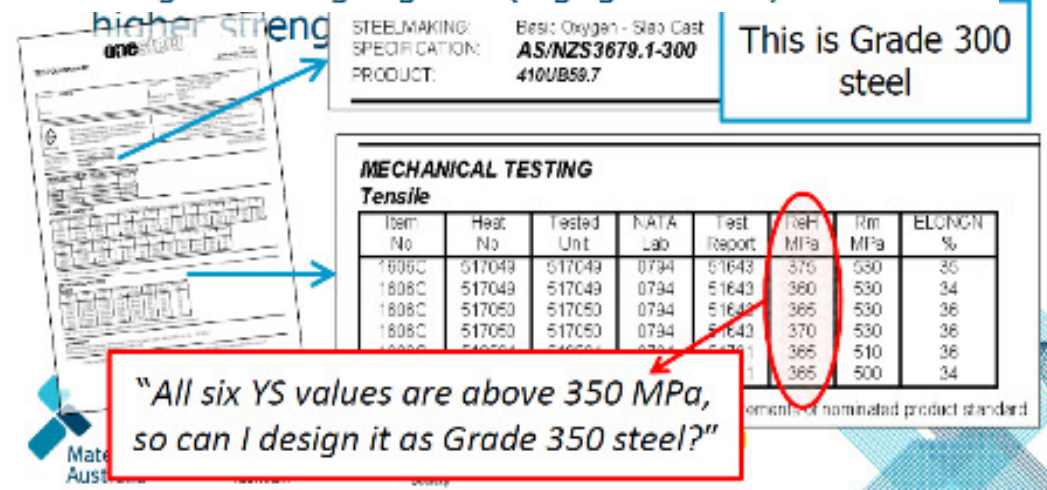
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## Up-grading

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- ❖ Supplier has a manufacturer's mill certificate stating one strength grade (e.g. grade 300)
- ❖ But tensile test values on that certificate suggest that the batch might meet the requirements of a higher strength grade (e.g. grade 350)



## Example 6: No disclosure provided on nature of exporter changes to MCC category

### Dragon Steel Verification Report (499 & 505)

*“DSC included mandatory MCC categories prime, shape and minimum yield strength and an additional category “Section” to reflect the different groups of combination of height and width of the cross-section of H-section. DSC stated this category has an effect on the cost of production and selling prices.”*

P-H-A-01	P-H-A-13	P-H-B-03	P-H-B-15
P-H-A-02	P-H-A-14	P-H-B-04	P-H-B-16
P-H-A-03	P-H-A-15	P-H-B-05	P-H-B-17
P-H-A-04	P-H-A-16	P-H-B-06	P-H-B-18
P-H-A-05	P-H-A-17	P-H-B-07	P-H-B-19
P-H-A-06	P-H-A-18	P-H-B-08	P-H-B-20
P-H-A-07	P-H-A-19	P-H-B-09	P-H-B-21
P-H-A-08	P-H-A-20	P-H-B-10	P-H-B-22
P-H-A-09	P-H-A-21	P-H-B-11	
P-H-A-10	P-H-A-22	P-H-B-12	
P-H-A-11	P-H-B-01	P-H-B-13	
P-H-A-12	P-H-B-02	P-H-B-14	

No information provided on what this additional category “Section” comprises, only numbers 1-22 included in the domestic sales MCC’s.

Permits the exporter to exclude a large number of domestic sales from comparison to the export sales – capable of manipulation?

## Example 7: Carbon content confused with carbon equivalent

REP 486 & 489 (Review – Rebar ex Korea & Taiwan)

For Korea:

“Grade type incorporates standards, yield strength and **carbon content differences**. Grades of domestic and exported goods compared. Grade used to distinguish goods and determine price.”

## Example 8: Commission accepts domestic sales are alloyed and export sales are not – EQR shows alloys for both

REP 486 & 489 and EQR for Wei Chih (Review – Rebar ex Korea & Taiwan)

For Taiwan:

“The Commission’s analysis shows that models S420 to S420W differ in chemical composition and grade standards to the export model; **domestic models include strengthening alloys whilst the export model is water quenched; and the domestic models do not meet Australian standards.** The Commission therefore affirms the views set out in subsection 4.5.3 that there were not sufficient volumes of sales of domestic models appropriately comparable to the models Wei Chih exported to Australia.

MCC	Exported to Australia
Quality (Prime/ non prime)	Prime
Production method	Water quenched
Form (Straight or coil)	Straight
Diameter	12-40mm
Length	6-12m
Deformation type	Ribbed
Grade (mpa)	500-650 mpa
Specification standard	AS/NZS 4671:2001
Grade	500N
Ductility	Normal
Alloy and alloy content	Nb:0.024-0.028% and Nb:0.026-0.030%
Carbon Content	0.24% max
Sales Quantity method	actual weight and theoretical weight
Coating	No coating

Niobium & vanadium are both alloys used for strengthening

MCC	Domestic market
Quality (Prime/ non prime)	Prime
Production method	Hot rolled
Form (Straight or coil)	Straight
Diameter	#3-#10
Length	9.5-18m
Deformation type	Ribbed
Grade (mpa)	Min 420 and 550 mpa
Specification standard	CNS 560
Ductility	Normal
Alloy	Vanadium (for SD420W only)
Carbon Content	0.32% (for SD420W) & 0% (for SD280)
Sales Quantity method	actual weight
Coating	No coating

## For Reference

<https://www.oakleysteel.co.uk/niobium-microalloyed-structural-steels>

### NIOBIUM MICROALLOYED STEELS

A microalloyed steel contains small amounts of alloying elements (0.02-0.1 wt%), such as niobium, vanadium, titanium, molybdenum, zirconium and boron. These small percentages of alloying elements have a significant impact on many important properties for engineering applications. Adding niobium to steel causes the formation of niobium carbide and niobium nitride within the structure of the steel. These compounds improve the grain refining, retardation of recrystallization, and precipitation hardening of the steel which increase the toughness, strength, formability, and weldability of the microalloyed steel.

## Example 9: Lack of fundamental understanding of production processes

Verification Report for Wei Chih (Review – Rebar ex Korea & Taiwan)

For Taiwan:

“Goods made to the Taiwanese standard are hot rolled. Goods made to the Australian standard are water quenched.”

They are all produced through a hot-rolling process. Some go through a rapid quench in the final stages of the hot-rolling process.



## Example 10: Mandatory MCC criteria not applied – assessment criteria driven by exporter data representation

### Example : REV499 & CONT 505

Item	Category	Sub-category	Identifier	Sales data	Cost data	Key category
1	Prime	Prime	P	Mandatory	Not applicable	Yes
		Non-prime	N			
2	Shape	Universal Beams ('I' sections)	I	Mandatory	Mandatory	Yes
		Universal Columns and Universal Bearing Piles ('H' sections)	H			
		Channels ('U' or 'C' sections)	C			
		Angles (Equal and Unequal Angle sections)	A			
3	Minimum yield strength	Less than 265 MPa	A	Mandatory	Mandatory	Yes
		Greater than or equal to 265 MPa	B			
4	Tensile strength	Less than 400 MPa	A	Optional	Optional	No
		Greater than or equal to 400 MPa and less than 450 MPa	B			
		Greater than or equal to 450 MPa and less than 500 MPa	C			
		Greater than or equal to 500 MPa	D			
5	Thickness	Minimum cross-sectional thickness less than 11mm	1	Optional	Optional	No
		Minimum cross-sectional thickness greater than or equal to 11mm	2			
6	Dimension	Beam or section height less than 230 mm	S	Optional	Optional	No
		Beam or section height equal to or greater than 230 mm	L			
7	Weldability	Carbon equivalent value specified in relevant standard	Y	Optional	Optional	No
		Carbon equivalent value not specified in relevant standard	N			

When an exporter claims “tensile strength is more important to consider than yield strength” what does the Commission do?

When an exporter goes to great lengths to define 8 categories under “dimension” and 5 categories under “weldability”, does minimum yield strength remain the key consideration in grade classification assessment?

## Error 9: Mandatory MCC criteria not applied – assessment criteria driven by exporter data representation

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### Example : REV499 & CONT 505

Category	Characteristics of Category & Rationale for Model Matching <b>SYS</b>	Used in Model Matching
Prime	Prime or non-prime. This category was included by SYS however it is noted that all goods sold by SYS during the review period were prime.	Y
Shape	The category of shape aligned to the MCC structure. The verification team identified that shape affects the end use of the goods in construction projects.	Y
Minimum yield strength	The category of minimum yield strength aligned to the MCC structure. The verification team identified during the verification that yield strength was a primary factor considered by customers when determining suitability of steel for a project, in conjunction with price considerations.	Y

Category	Characteristics of Category & Rationale for Model Matching <b>Tung Ho</b>	Used in Model Matching
Prime	Prime or non-prime. This category was not used in model matching as all the goods sold by Tung Ho were prime.	N
Shape	The characteristics of shape is aligned with the MCC structure. The verification team did not identify information to suggest that any of these characteristics do not have an effect on price.	Y
Minimum yield strength	This category was not used for model matching as all the goods sold by Tung Ho were > 265MPa. The verification team reviewed test certificates for selected samples and concluded that this was correct.	N
Thickness	Tung Ho modified the MCC structure for this category to a minimum cross-sectional thickness less than 12mm, or minimum cross-sectional thickness greater than or equal to 12mm. The verification team did not identify information to suggest that any of these characteristics do not have an effect on price.	Y
Dimension	Tung Ho amended this category (see discussion at 2.2). The verification team did not identify information to suggest that any of these characteristics do not have an effect on price.	Y
Weldability	Tung Ho amended this category (see discussion at 2.2). The verification team did not identify information to suggest that any of these characteristics do not have an effect on price.	Y

Inconsistent approach across exporters even within the same country.  
No disclosure of grades considered best match means no clarity for industry on what has been done – no reasonable opportunity to challenge.

Category	Characteristics of Category & Rationale for Model Matching <b>Hyundai</b>	Used in Model Matching
Prime	Prime or non-prime. This category was included by Hyundai Steel however it is noted that all goods sold by Hyundai Steel during the review period were prime.	No
Shape	The category of shape aligned to the MCC structure. The verification team did not identify any information to suggest that these characteristics do not effect price.	Yes
Minimum yield strength	The category of minimum yield strength aligned to the MCC structure. The verification team did not identify any information to suggest that these characteristics do not effect price.	Yes
Tensile Strength	The category of tensile strength aligned to the MCC structure. The verification team did not identify any information to suggest that these characteristics do not effect price.	Yes
Thickness	This category was an optional MCC category and not used by Hyundai Steel.	No
Dimension	The category of dimension aligned to the MCC structure, The verification team did not identify any information to suggest that these characteristics do not effect price.	Yes
Weldability	This category was an optional MCC category and not used by Hyundai Steel.	No

Category	Characteristics of Category & Rationale for Model Matching <b>Dragon Steel</b>	Used in Model Matching
Prime	Prime or non-prime. The characteristics of prime aligned to the MCC structure regarding domestic models. The verification team did not identify information to suggest that any of these characteristics do not have an effect on price.	Y
Shape	The characteristics of shape aligned to the MCC structure. The verification team did not identify information to suggest that any of these characteristics do not have an effect on price.	Y
Minimum yield strength	The characteristics of minimum yield strength aligned to the MCC structure. The verification team did not identify information to suggest that any of these characteristics do not have an effect on price.	Y
Section	As stated in section 2.2, DSC included this additional category to reflect the different groups of combination of height and width of the cross-section of H-section. It has an effect on the cost of production and selling prices.	Y

# OPTIONS FOR IMPROVEMENT

## A. APPOINTMENT OF INDUSTRY SPECIFIC TECHNICAL EXPERTS TO ASSIST COMMISSION STAFF

1. Establish advisory panels constituted by industry-specific technical experts available to be engaged on industry and product questions to be resolved – selected from university/tertiary institution engineering/materials schools establish a panel of independent industry experts
2. Upon initiation of an investigation, engage a member of the panel to advise, as required, on contentious technical, product, standards and market issues raised in the course of investigations, reviews and inquiries.
3. Opinions of the technical expert to be published, with rights reserved for interested parties to engage their own expert witnesses to reply.
4. Commission decisions and recommendations to be informed by opinions of technical expert

## B. ESTABLISH MODEL CONTROL CODE PRACTICE RULES

1. Applicants to nominate proposed Model Control Codes (MCC) to be applied in investigation together with application
2. Commission to publish MCC proposal in initiation notice/consideration report
3. Interested parties may lodge amendments to the Commission's MCC Proposal within seven days of publication
4. Commission to refer any amendments to the MCC proposal to the case-appointed industry specific technical expert to resolve and issue approved form of MCCs within a further seven days.
5. All responses to questionnaires to comply with the approved MCCs
6. Exporters reserve the right to seek extensions to questionnaire response up to fourteen days where amendment of MCCs have reasonably caused delays to compliance



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