Canberra
6/2 Brindabella Circuit
Brindabella Business Park
Canberra International Airport
Australian Capital Territory 2609

Brisbane
Level 4, Kings Row Two
235 Coronation Drive
Milton, Brisbane
Queensland 4064

Melbourne
Level 39, 385 Bourke Street
Melbourne
Victoria 3000

Australia

Canberra +61 2 6163 1000
Brisbane +61 7 3367 6900
Melbourne +61 3 8459 2276

www.moulislegal.com

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12 September 2018

Ms Carina Oh
Assistant Director
Anti-Dumping Commission
Level 35, 55 Collins Street
Melbourne
Victoria 3000

By email

Dear Carina

Scaw South Africa and Haggie Reid
Anti-circumvention inquiry - wire ropes from South Africa

We write on behalf of our clients:

- Scaw South Africa (Proprietary) Limited (**Scaw**); and
- Haggie Reid Pty Ltd (**Haggie Reid**),

concerning the inquiry presently underway by the Anti-Dumping Commission (**Commission**) concerning the allegations of a circumvention activity by Bekaert Wire Ropes Pty Ltd (**Applicant**) in respect of wire ropes exported to Australia from South Africa.

NON-CONFIDENTIAL

The Applicant alleges that 9 strand wire rope exported from the Republic of South Africa to Australia are "circumvention goods" because they constitute a slight modification of wire rope in respect of which a dumping duty notice applies (e.g. 6 and 8 strand wire ropes). The Applicant's allegation relies on the assertion that 9 strand wire rope is similar to 6 and 8 strand wire ropes in various aspects.

We submit that the Applicant has grossly oversimplified the nature of wire ropes in order to contend that 9 strand wire ropes constitute slight modifications of 6 and 8 strand wire ropes. Wire rope is a complex product whose characteristics vary significantly based on myriad factors, not least of which is strand quantity. Upon a proper consideration of wire ropes, it will be evident that 9 strand wire ropes exported to Australia represent a new product offering on the part of Scaw and Haggie Reid to their customers, and do not constitute merely a "slight modification" of wire ropes in respect of which the dumping duty notice applies.

A Introduction to wire rope

To the uninitiated, a wire rope may appear to be a simple, unitary and elongate object, perhaps thought of reductively as a thick string or cable. Upon closer inspection however, one begins to appreciate that wire rope is *"a complex piece of mechanical machinery with a number of different specifications and properties that can affect its performance and service life"*.[1]

With reference to *Figure 1*[2] and *Figure 2*[3] below, a wire rope comprises individual metal **wires** wound together along their lengths to form respective **strands**. These strands are each wound together over

[1] See, https://www.mazzellacompanies.com/Resources/Blog/what-is-wire-rope-specifications-classifications-construction (Attachment 1)
[2] Ibid.
[3] See, http://www.aliotogroup.com/en/products/steel-wire-ropes/6x37-fc/ (Attachment 2)

a rope **core**, which itself can be such a metal strand or even a smaller metal rope (known as an independent wire rope core, or **IWRC**), though the core can take other forms, such as synthetic fibre.

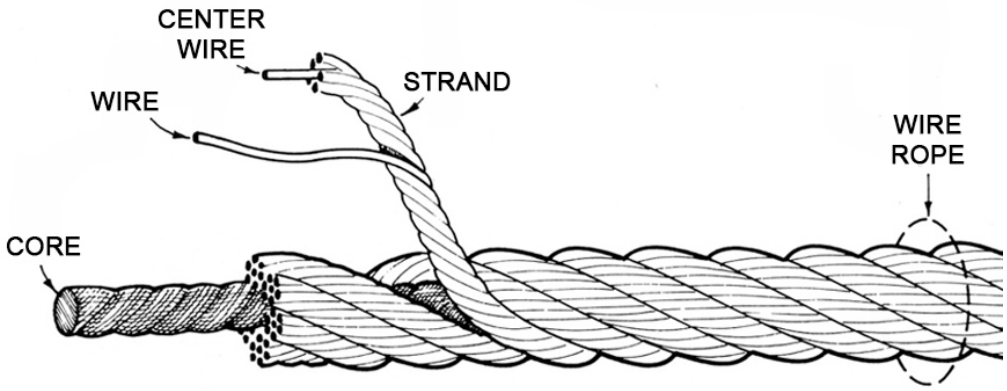

Figure 1: basic construction of a wire rope. ***Wires*** *wound together form a* ***strand****, and* ***strands*** *wound together form a* ***rope****. It is crucial not to mix these terms up.*

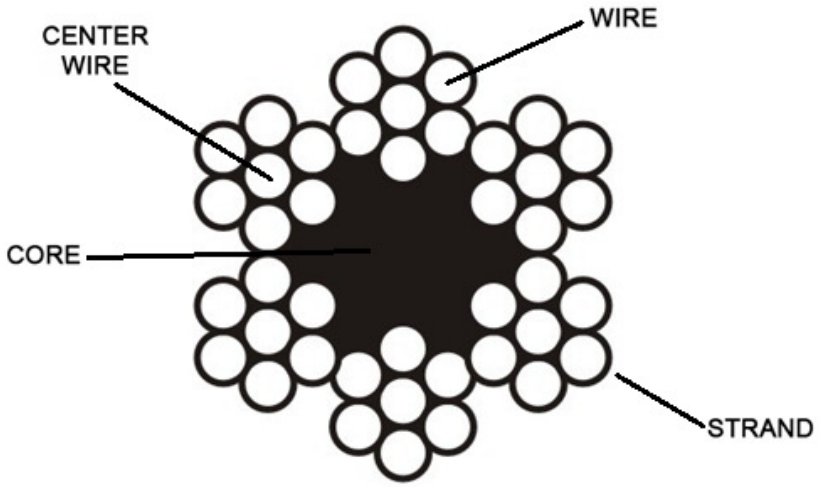

Figure 2: cross-section of a wire rope. This rope has 6 strands, each strand having 6 outer wires wound around a centre wire (labelling added).

A major advantage of wire rope is that it can still function as required even if wires within the rope are broken. For example, compare a wire rope to a metal chain. If a single link in a chain breaks, the entire chain fails. In contrast, if one or more wires in a wire rope breaks, the rope can still function. In fact, even if every single wire in a wire rope is broken at multiple locations, the wire rope can still function if those breaks are well-distributed throughout the rope.[4] This is illustrated in *Figure 3*[5] below, which schematically depicts one or more breaks in 30 individual wires, mapped against the reduction in local breaking strength of the rope.

[4] See, http://www.ropetechnology.com/bro_engl/casar_steel_wire_ropes_letter.pdf, page 3. (Attachment 3)
[5] Ibid.

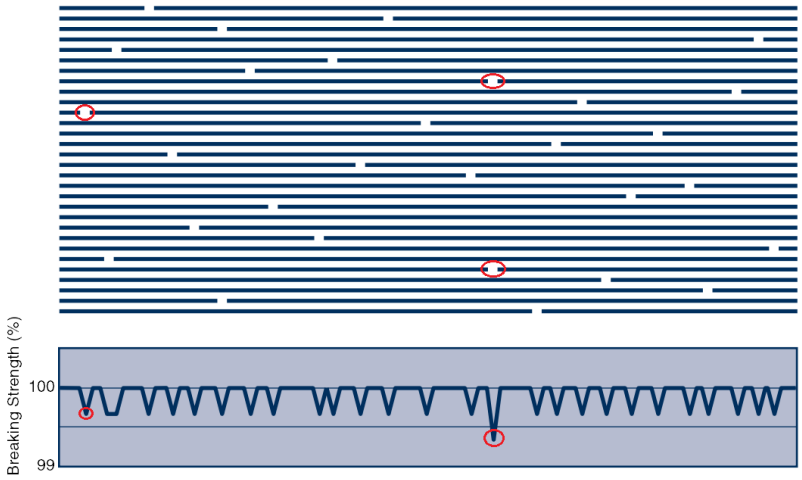

Figure 3: Each wire break contributes to a local reduction in the strength of the rope. The two wire breaks occurring at the same length of the rope reduce the local breaking strength of the rope more than the breaks which are not aligned with other breaks in the rope (red circles added).

Unlike chains which fail if a single load-bearing element fails, wire ropes offer multiple systems of load-bearing elements working in parallel with one another. As such, the specific construction of a wire rope is determinative of its performance, down to a rope's individual wires. It is thus no surprise that in wire rope nomenclature, ropes are specified by their construction. For example, a "6X36 Classification" wire rope is one with six strands, each strand having between 27 to 49 wires.[6]

The load-bearing advantages of wire rope makes it highly-suited to large-scale load-bearing applications, including construction, excavation, mining, tramways, elevators and bridges. The design and manufacture, and use and installation, of wire ropes require expert knowledge and skills, given the "high-stakes" nature of their applications. This is critical, because rope failure could cause immense property damage and commercial loss, and would endanger lives.

For example, in August 2017, a 200-tonne crane toppled into Sydney Harbour when a crane wire snapped. The snapped wire *"was sent flying over Sydney Harbour and into Luna Park's iconic face entrance [and] could have killed someone"*.[7] Or consider a *Cranes Today* article which reports on a man who *"was killed after being struck by the boom of a Link-Belt crane… [resulting from a]… wire rope breaking"*.[8] The article discusses the rigorous forensic-style testing of the broken wire rope to determine why it broke.

Clearly, the design, manufacture, use, installation and inspection of wire ropes is critical if breakdowns and indeed disasters are to be avoided. Once one appreciates that structures like the Golden Gate Bridge are substantially supported by wire ropes, it becomes increasingly obvious that even the preceding discussion of wire ropes, limited to its number of strands and wires, offers only a glimpse of how varied and complex the construction and thus performance of wire ropes truly is. Poor wire rope construction and practices can have far-reaching and destructive consequences. Changes to the characteristics of a wire rope are far from trivial, both in their engineering and in their performance.

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6 See, <https://www.mazzellacompanies.com/Resources/Blog/what-is-wire-rope-specifications-classifications-construction>

7 See, <https://www.dailytelegraph.com.au/news/nsw/crane-collapses-into-harbour-near-luna-park/news-story/ed9fb2f54362eb363b1b911b50aa2022> (Attachment 4)

8 See, <http://www.cranestodaymagazine.com/news/wire-rope-in-fatal-accident-should-have-been-rejected/> (Attachment 5)

B Rope properties

All wire ropes include a combination of properties that give them specific performance traits depending on design, engineering, materials and composition. With the many specialized procedures required for [different wire rope applications], it is important to select ropes that are best suited for each application. No single rope can do it all.[9]

For example, a rope with fewer but larger outer wires per strand will likely be more **abrasion resistant** but less **fatigue resistant**. Different applications call for ropes having different properties. Some common rope properties that are considered during rope selection are discussed in B1 to B6 below.

1 Strength

In the wire rope industry, the strength of a wire rope typically refers to its minimum breaking load/force (**MBL**) – that is, the minimum load that would break a new rope when it is loaded under tension. For example, a rope with an MBL of 195 tonnes is one that, when new, would break when carrying a load of greater than 195 tonnes.

The MBL of a rope can vary drastically based on its construction. For example, with reference to *Table 1*[10] below, the Applicant itself supplies a particular family of 6 strand wire ropes whose MBLs vary drastically from 5.63 tonnes to 211 tonnes. It must be further emphasised that this huge variance in MBL is for two ropes, each having 6 strands.

BRIDON Dyform 6 / PI / Bristar

Diameter		Nominal length mass		Minimum Breaking Force					
				EIP/1960			EEIP/2160		
mm	inch	kg/m	lb/ft	kN	Tons (short)	Tonnes (metric)	kN	Tons (short)	Tonness (metric)
8.00		0.294	0.197	55.2	6.20	5.63	57.5	6.46	5.86
50.0		11.5	7.71	2070	233	211	2250	253	229

Table 1: Contracted specification table of a 6 strand rope supplied by Applicant (labelling added).

Already, it is evident that substantial differences can exist even between ropes having an identical number of strands but different design and specifications in other respects. It would be disingenuous to assert that a 6 strand rope designed to achieve an MBL of 211 tonnes is a "slightly modified" version of a 6 strand rope designed to achieve an MBL of only 5.63 tonnes. Clearly, these two ropes must have drastically different end uses and different designs and specifications to suit the conditions in which they must operate and the purposes for which they are intended.

2 Fatigue resistance

Fatigue resistance refers to the ability of a rope to withstand repeated bending under stress,[11] for example when a load-carrying rope passes over a sheave or pulley. Fatigue resistance is associated with metal fatigue in a rope's wires and their construction and configuration. Fatigue resistance thus

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9 See, <http://www.unionrope.com/Resource_/TechnicalReference/2424/Choosing%20the%20right%20rope%20for%20your%20application-Oil%20&%20Gas.pdf>, page 1. (Attachment 6)

10 See, https://www.nobles.com.au/Admin/Public/Download.aspx?file=Files%2FFiles%2FPDF%2FBridon%2FBridon-Bekaert+Cranes+and+Industrial+Catalog+-+Nobles+2018.pdf, page 29. (Attachment 7)

11 See, http://www.unionrope.com/Resource_/TechnicalReference/2424/Choosing%20the%20right%20rope%20for%20your%20application-Oil%20&%20Gas.pdf, page 1.

depends on metallurgy and wire diameter.[12] To delay the deleterious effects of metal fatigue, consideration must also be given to the sheaves and/or drums that a rope is to be used with. For example, a rope should never bend over a drum with a diameter so small so as to permanently bend the rope.[13]

3 Abrasion resistance

During use, the exterior of a wire rope gradually wears away due to physical contact against surfaces such as drums, and against itself, as illustrated in *Figure 4*.[14] In mining applications, as shown in *Figure 5*,[15] wire rope that is used as a drag rope is subject to extreme abrasion as it is pulled through rock and soil. Such abrasive contact causes the exterior of the rope to deform. Abrasion resistance refers to a rope's ability to withstand this wearing away and deformation.

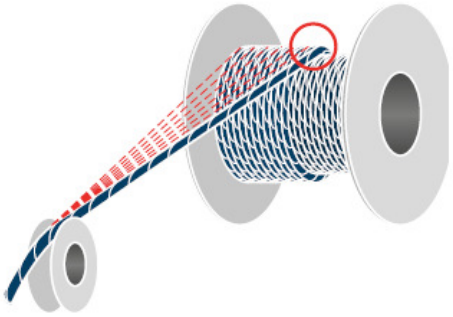

Figure 4: "Wire rope on adjacent drum laps can cause point contact and accelerated wear".[16]

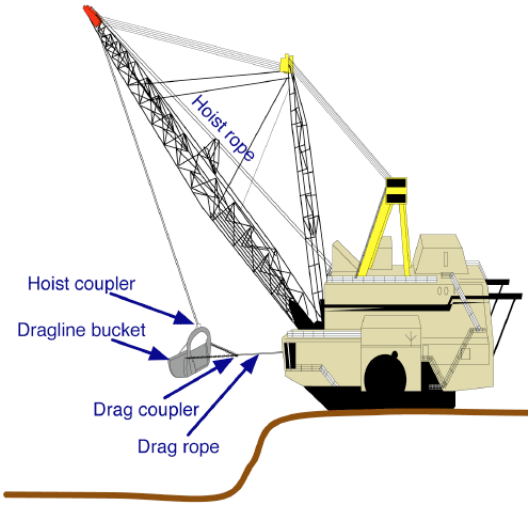

Figure 5: During operation of this dragline excavator, the drag rope is pulled through material such as rock and soil and is thus subject to extreme abrasion.

12 Ibid.
13 Ibid.
14 See, https://www.nobles.com.au/Admin/Public/Download.aspx?file=Files%2FFiles%2FPDF%2FBridon%2FBridon-Bekaert+Cranes+and+Industrial+Catalog+-+Nobles+2018.pdf, page 42.
15 See, https://en.wikipedia.org/wiki/Dragline_excavator.
16 See, https://www.nobles.com.au/Admin/Public/Download.aspx?file=Files%2FFiles%2FPDF%2FBridon%2FBridon-Bekaert+Cranes+and+Industrial+Catalog+-+Nobles+2018.pdf, page 42.

4 Crushing resistance

A wire rope is "crushed" by external pressure – for example, from physical contact against itself on a drum, as depicted in *Figure 6*[17] below:

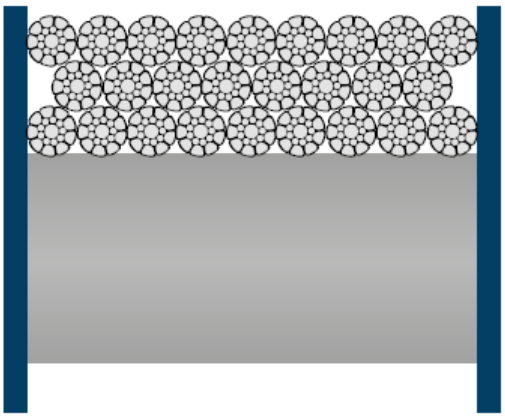

Figure 6: cross-section of a wire rope crushing itself on a drum.

This crushing pressure distorts the rope's wires, strands and core, and thus the cross-sectional shape of the rope. Crushing resistance refers to a rope's ability to withstand such deformation from external pressure.[18] When a rope is damaged by crushing, its wires, strands and core are less able to move and adjust relative to one another, thereby compromising the rope's load-carrying capacity.

Crush resistance varies based on the core of the rope, the quantity of strands, the direction in which the rope's wires and strands are laid (**lay**), and whether or not the strands have been compacted.

5 Flexibility

The flexibility of a rope refers to its ability to bend in an arc.[19] Four primary factors affect a rope's flexibility:

- wire diameter;
- rope and strand construction;
- metal composition of wires and finish (e.g. the rope can have a galvanised finish); and
- type of rope core.[20]

6 Rotation resistance

When load is placed on a wire rope (i.e. when it is "loaded"), torque is created within the rope as its wires and strands try to straighten out. Ropes must be designed and selected to operate with this load-induced torque, otherwise the carried load will rotate, as shown in *Figure 7*[21] below.

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17 See, https://www.nobles.com.au/Admin/Public/Download.aspx?file=Files%2FFiles%2FPDF%2FBridon%2FBridon-Bekaert+Cranes+and+Industrial+Catalog+-+Nobles+2018.pdf, page 43.

18 See, http://www.unionrope.com/Resource_/TechnicalReference/2424/Choosing%20the%20right%20rope%20for%20your%20application-Oil%20&%20Gas.pdf, page 2.

19 Ibid.

20 Ibid.

21 See, https://www.nobles.com.au/Admin/Public/Download.aspx?file=Files%2FFiles%2FPDF%2FBridon%2FBridon-Bekaert+Cranes+and+Industrial+Catalog+-+Nobles+2018.pdf, page 41.

Alternatively, if both ends of the rope are fixed, torque will be transferred to the fixing points. A rope's resistance to rotation largely depends on the rope's lay and strand quantity.

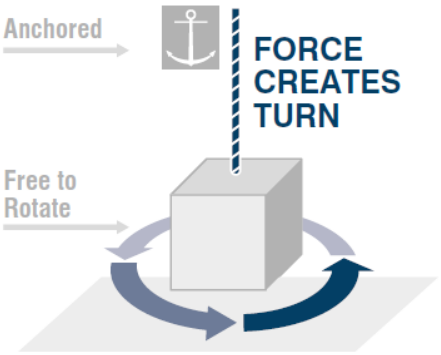

Figure 7: "When one end of a rope is free to rotate, the applied load causes the rope to turn".[22]

These factors set out in **B1 to B6** are but some of the rope **properties** that must be considered when selecting a rope for a particular application.

C Rope construction

A rope's **properties** are determined by its **construction**. There are numerous construction characteristics to be aware of as are now discussed at **C1 to C5** below.

It is important to bear such construction characteristics in mind so that one appreciates how complex wire ropes are. Proper comprehension of these complexities, how they come about through the process of design and manufacture, and of the differences they impart to rope performance, leads inexorably to the conclusion that Scaw's 9 strand ropes – or indeed any manufacturer's 9 strand ropes - do not and would not constitute merely slight modifications of 6 and 8 strand ropes.

1 Wire / strand

As the fundamental building blocks of every wire rope, the material, and *"size and number of wires in each strand, as well as the size and number of strands in the rope greatly affect the characteristics of the rope".*[23]

2 Strand construction and configuration

Properties like fatigue resistance and resistance to abrasion are directly affected by the design of strands.[24]

Strands are designed with various combinations of wires to produce the desired resistance to fatigue and abrasion.[25]

Examples of different strand constructions are shown in *Table 2*[26] below:

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22 Ibid.
23 See, https://www.nobles.com.au/Admin/Public/DWSDownload.aspx?File=%2FFiles%2FFiles%2FPDF%2FGeneral+Information+Sheets%2FWire+Rope-General+Information.pdf, page 1. (Attachment 8)
24 See, <http://www.unionrope.com/Resource_/TechnicalReference/2450/Rope%20construction-classification.pdf>, page 1.
25 See, <http://www.hanessupply.com/content/catalog/001/001-0001.pdf>, page 1. (Attachment 9)
26 Ibid.

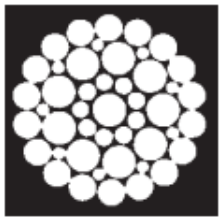
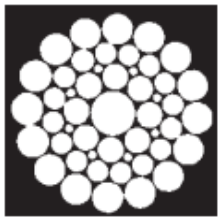
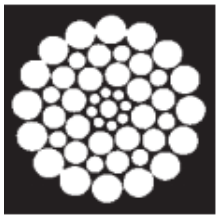
<table>
<tr><td>  </td><td>Single Size
This strand construction has wires of the same size wound around a centre wire.</td></tr>
<tr><td>  </td><td>Seale
Large outer wires surround the same number of smaller inner wires, which themselves surround a core wire. This strand construction provides excellent abrasion resistance but less fatigue resistance. Used with an independent wire rope core, Seale strand constructions offer excellent crush resistance over drums.</td></tr>
<tr><td>  </td><td>Filler Wire
Small wires fill spaces between larger wires to achieve increased crush resistance and a good balance of flexibility, strength, and abrasion resistance.</td></tr>
<tr><td>  </td><td>Warrington
Outer layer of alternating large and small wires surrounding inner wires of uniform size. This type of strand construction provides good flexibility and strength, but low abrasion and crush resistance.</td></tr>
<tr><td rowspan="2">The above strand constructions and configurations are often combined to achieve wire ropes with particular characteristics. Four such combinations are shown to the right:</td><td> 
Seale Filler Wire</td><td> 
Filler Wire Seale</td></tr>
<tr><td> 
Warrington Seale</td><td> 
Seale Warrington Seale</td></tr>
</table>

Table 2: Cross-sectional depictions of strand constructions and configurations.

3 Core

A fundamental component of wire rope, the core supports the strands and helps maintain their

relative positions, particularly under loading and bending stresses.[27] *Figure 8*[28] below describes three types of cores:

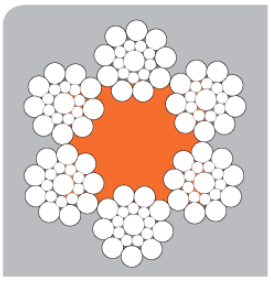
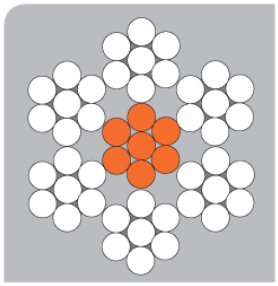
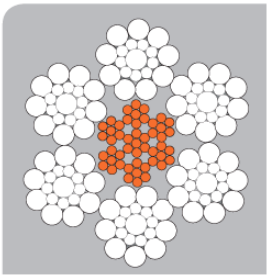
	**Fibre Core** Polypropylene or natural fibres are used as the core. These cores offer excellent flexibility and lubricant retention[29] (wires and strands are typically covered in lubricant as they are wound together).
	**Wire Strand Core** A single strand is used as the core. Such cores are suited to smaller diameter wire ropes and offer relatively high strength and **corrosion resistance**.[30]
	**Independent Wire Rope Core (IWRC)** A small wire rope is used as the core. Ropes with IWRCs offer excellent crush, abrasion and fatigue resistance, and have relatively high MBLs.

Figure 8: cross-sectional depiction of three types of rope cores.

4 Lay

The lay of a wire rope refers to the direction in which its wires and strands are wound.

> *[T]he combination of strand lay and rope lay will greatly affect the rope characteristics and this factor must be taken into consideration when choosing a rope.*[31]

Some examples of different lays are shown in *Figure 9*[32] below:

27 See, <https://www.mazzellacompanies.com/Resources/Blog/what-is-wire-rope-specifications-classifications-construction>

28 See, <http://www.wireropes.co.nz/resources/rope-basics.htm>

29 Ibid.

30 Ibid.

31 See, https://www.nobles.com.au/Admin/Public/DWSDownload.aspx?File=%2FFiles%2FFiles%2FPDF%2FGeneral+Information+Sheets%2FWire+Rope-General+Information.pdf, page 4. (Attachment 8)

32 Ibid.

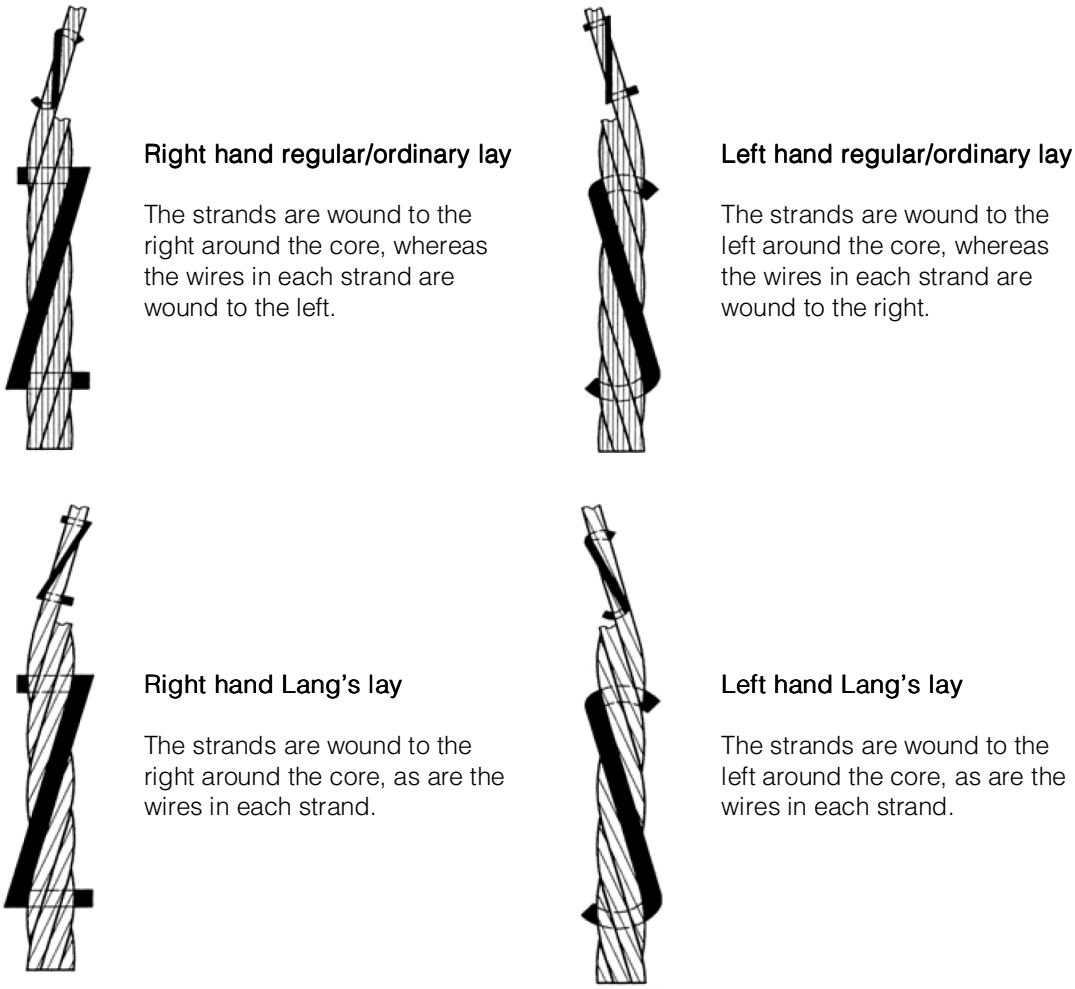


Figure 9: Schematic representations of four different rope lays. The "Z" and "S" lettering help with visualising the direction in which the strands and wires are wound.

Ropes with a regular lay are typically more crush and rotation resistant, and spool better in a drum than their Lang's lay counterparts. Meanwhile, Lang's lay ropes typically offer greater fatigue and abrasion resistance.[33]

5 Plastication

Rope performance is also altered with the addition of plastic. *Figure 10*[34] and *Figure 11*[35] below respectively illustrate a rope that is impregnated with plastic, and a rope having an Independent Wire Rope Core (IWRC) impregnated with plastic wherein the outer strands are embedded into it. Of course, other plastication arrangements, with or without different types of plastics, can be utilised depending on the requirements of the rope and the environment in which it is to be used.

33 See, <https://www.mazzellacompanies.com/Resources/Blog/what-is-wire-rope-specifications-classifications-construction>

34 Ibid.

35 Ibid.

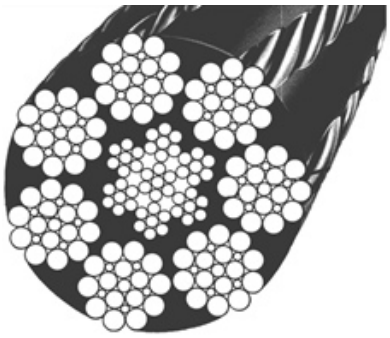


Figure 10: this rope is impregnated with plastic to protect against abrasion, wear, and corrosion. However, the plastic coating hinders visual inspection of the rope.

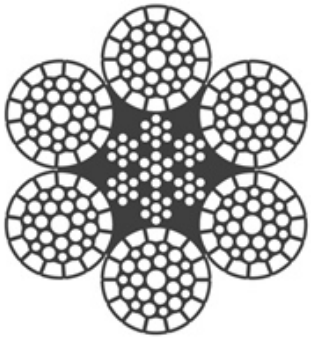


Figure 11: The internal spaces between strands and between wires are filled with plastic. Plastic impregnation improves fatigue resistance.

The above list of rope construction characteristics (C1 to C5) is not exhaustive. For example, some other rope construction characteristics include:

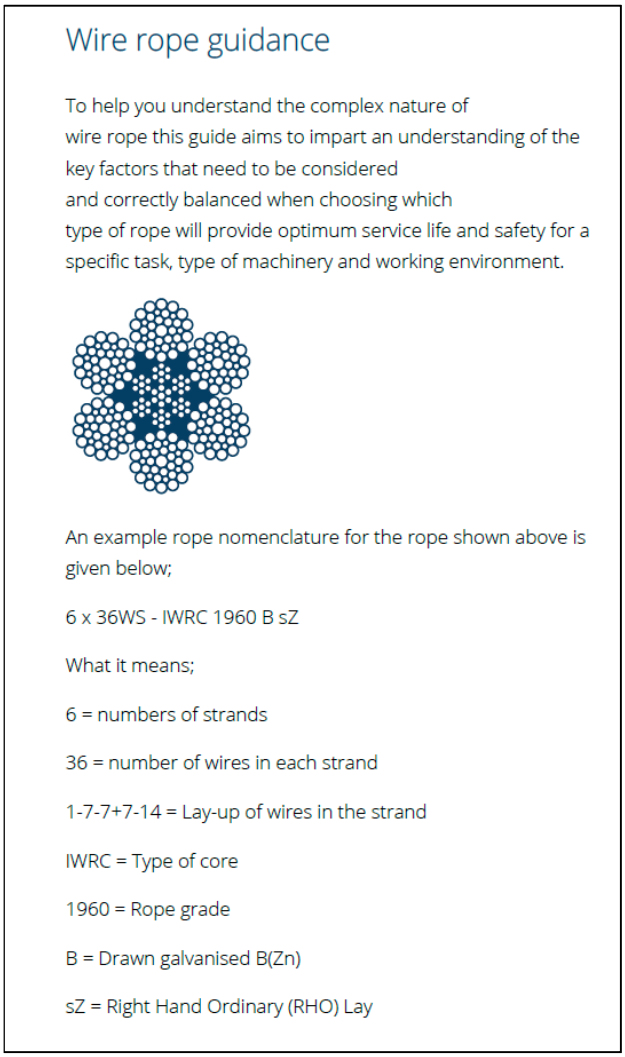
- whether the rope is lubricated, and if so, the lubricant type;
- whether the strands and wires are preformed;
- the finish of the wires (e.g. whether they are galvanized, and if so with what coating) to achieve different levels and types of corrosion resistance;
- the grade of the rope (this influences the rope's strength);
- whether the rope is compacted and/or swaged (influences strand density, rope finish, strength and abrasion resistance); and
- fill factor, which is the ratio of metallic cross section of the rope in relation to the rope's diameter (i.e. it is the proportion of a rope's cross section that is occupied by metal), and which influences the rope's strength.

D Rope differences

As should be clear from the above, when selecting a rope for a particular application a multitude of rope properties must be considered. These properties are determined by reference to a rope's construction. Wire ropes are not products that are haphazardly designed, selected, installed and/or used. Expert knowledge is required to select the right rope for a specific job; this is reinforced by the Applicant's own advertising material, excerpts of which are shown in Figure 12[36] and Figure 13[37] below.

[36] See, https://www.nobles.com.au/Admin/Public/Download.aspx?file=Files%2FFiles%2FPDF%2FBridon%2FBridon-Bekaert+Cranes+and+Industrial+Catalog+-+Nobles+2018.pdf, page 39. (Attachment 7)

[37] Ibid, page 45.



Wire rope guidance

To help you understand the complex nature of wire rope this guide aims to impart an understanding of the key factors that need to be considered and correctly balanced when choosing which type of rope will provide optimum service life and safety for a specific task, type of machinery and working environment.

An example rope nomenclature for the rope shown above is given below;

6 x 36WS - IWRC 1960 B sZ

What it means;

6 = numbers of strands

36 = number of wires in each strand

1-7-7+7-14 = Lay-up of wires in the strand

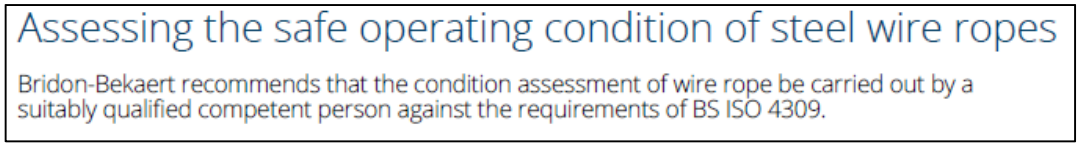
IWRC = Type of core

1960 = Rope grade

B = Drawn galvanised B(Zn)

sZ = Right Hand Ordinary (RHO) Lay

Figure 12: Applicant's catalogue acknowledges the "complex nature of wire rope".



Assessing the safe operating condition of steel wire ropes

Bridon-Bekaert recommends that the condition assessment of wire rope be carried out by a suitably qualified competent person against the requirements of BS ISO 4309.

Figure 13: BS ISO 4309 "establishes general principles for the care and maintenance, and inspection and discard of steel wire ropes used on cranes and hoists".[38]

The Applicant's assertion that 9 strand wire ropes constitute a slight modification of 6 and 8 strand wire ropes relies on a gross and disingenuous misrepresentation of the complexities of wire rope.

The number of strands in a rope is fundamental to its construction, not least because it dictates strand configuration and construction, and thus the rope's properties and performance. It is thus no surprise that the leading term in the nomenclature used to specify a rope is its number of strands. It is also no surprise that the first of two defining characteristics of the goods described in the dumping

[38] See, <https://www.iso.org/standard/66759.html>

duty notice refers directly to strand quantity, viz ropes having *"not greater than 8 strands"*.

If strand quantity is indeed of minor importance, then it is rather bizarre that both the wire rope industry and the dumping duty notice elect to specify ropes by reference to strand quantity. This is not an instance in which a product has been marginally changed. This is an instance in which a very different product has been developed and is now being commercially introduced into specific applications in the market.

Strand quantity is determinative of rope properties and performance. The deceptive assertion that 9 strand wire ropes constitute a slight modification of 6 and 8 strand ropes is akin to asserting that V8 engines constitute slight modifications of V6 engines. We invite the Commission to keep this analogy in mind as we now wade through the Applicant's overly-simplified assertions regarding 9 strand wire ropes, and the goods in respect of which the dumping duty notice applies.

1 General physical characteristics

The Applicant asserts that the 9 strand wire ropes that are under inquiry have the same general physical characteristics as the goods in respect of which the dumping duty notice applies.

Before breaking down this heretical assertion, which no wire ropes manufacturer would utter other than in the self-interested context in which the Applicant is here attempting to use it, let us identify an error with it. Recall that the dumping duty notice encompasses wire ropes having *"not greater than 8 strands"*. The Applicant's assertion would thus include the assertion that 9 strand wire rope has the same physical characteristics as, say, a rope with a single strand. Clearly this cannot be the case, and presumably even the Applicant would admit that this is not the intended assertion. Instead, what the Applicant intends to assert, and what it must assert, is that Scaw's 9 strand wire ropes have the same general physical characteristics as Scaw's 6 strand wire ropes and Scaw's 8 strand wire ropes.

The Applicant's erroneous assertion is repeated in respect of other matters, for example in relation to the production process of the goods, customer preferences and expectations, etc. We will not belabour this error, and shall press on with the assumption that the Applicant's assertions relate to 6 and 8 strand wire ropes. Therefore, where the Applicant has made an assertion relating to *"the circumvention goods"* and *"the goods the subject of the notice"*, we shall understand it to be an assertion relating to Scaw's 9 strand wire ropes (the alleged circumvention goods) and Scaw's 6 and 8 strand wire ropes (two subsets of the goods in respect of which the dumping duty notice applies). With this bit of housekeeping out of the way, let us explore why the Applicant's "actual" assertion — that Scaw's 9 strand wire rope has the same general physical characteristics as Scaw's 6 and 8 strand wire ropes — is deceptive and misleading, and why it should be dismissed.

The physical similarity, or lack thereof, between two goods depends on the level of generality at which one makes the comparison. The Applicant, in order to advance its own interests, has quite disingenuously employed an artificially high level of generality of the kind that would allow one to assert that even V8 engines and V6 engines have the same general physical characteristics. At this level of generality, the Applicant obviously feels that it can assert that Scaw's 9 strand wire ropes have the same general physical characteristics as its 6 and 8 strand ropes: both are elongate structures; are designed to carry loads; and comprise a core, wires and strands. However, this level of generality is not what is relevant, let alone appropriate, from the perspective of designers, manufacturers and users of wire rope.

In the wire rope industry, a rope's diameter, the MBL, core type, rope lay, strand construction and configuration, whether it has been swaged and/or compacted, whether it is coated and/or impregnated with plastic etc. are all important factors. It is this level of detail that matters in rope selection, and thus it is at this level of detail that one ought to assess 9 strand ropes against 6 and 8 strand ropes.

As has been made evident, physical characteristics can vary tremendously even between ropes having the same number of strands, let alone between ropes having a different number of strands.

Consider the Applicant's own catalogue, which advertises wire ropes for crane and industrial applications, an excerpt of which is shown in *Figure 14*[39] and touts the respective distinct advantages of three of its 6 strand ropes.

Figure 14: The Applicant's promotional material for three of its 6 strand wire ropes.

Meanwhile, in a different catalogue advertising wire ropes for surface mining applications, the Applicant promotes entirely different 6 strand ropes altogether, and goes as far as to compare its own 6 strand ropes with 6 strand ropes of competitors. An excerpt of this is shown in *Figure 15*,[40] in which the Applicant compares its 6 strand drag ropes used on *MB 200* and *M8400* to the 6 strand ropes of competitors, stating that its ropes are to be preferred. Presumably, such a preference must be argued on the basis of difference, otherwise it could not be asserted by the Applicant.

39 See, https://www.nobles.com.au/Admin/Public/Download.aspx?file=Files%2FFiles%2FPDF%2FBridon%2FBridon-Bekaert+Cranes+and+Industrial+Catalog+-+Nobles+2018.pdf, page 28. (Attachment 7)

40 See, Applicant's "surface mining" catalogue, page 19. (Attachment 10)

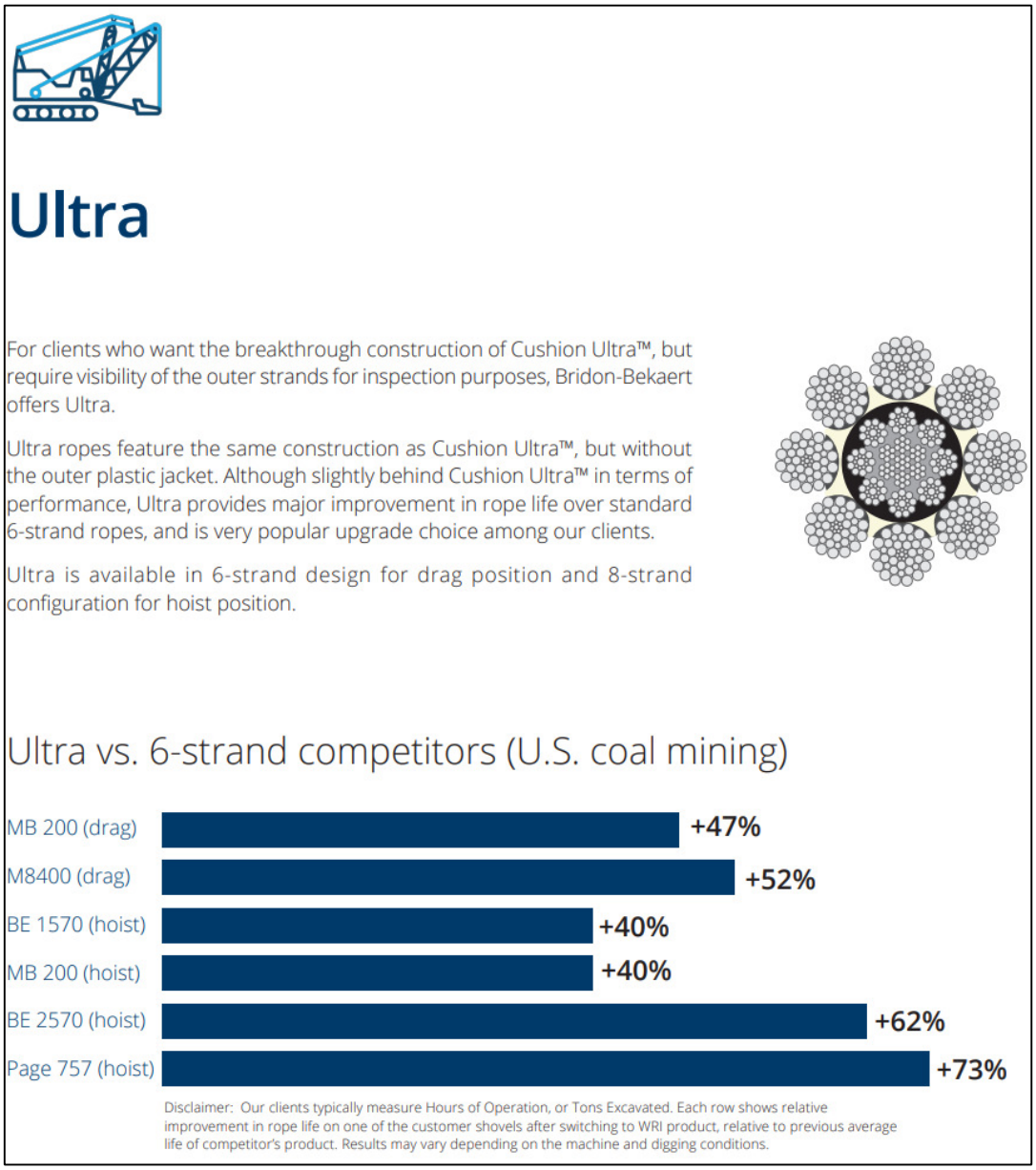
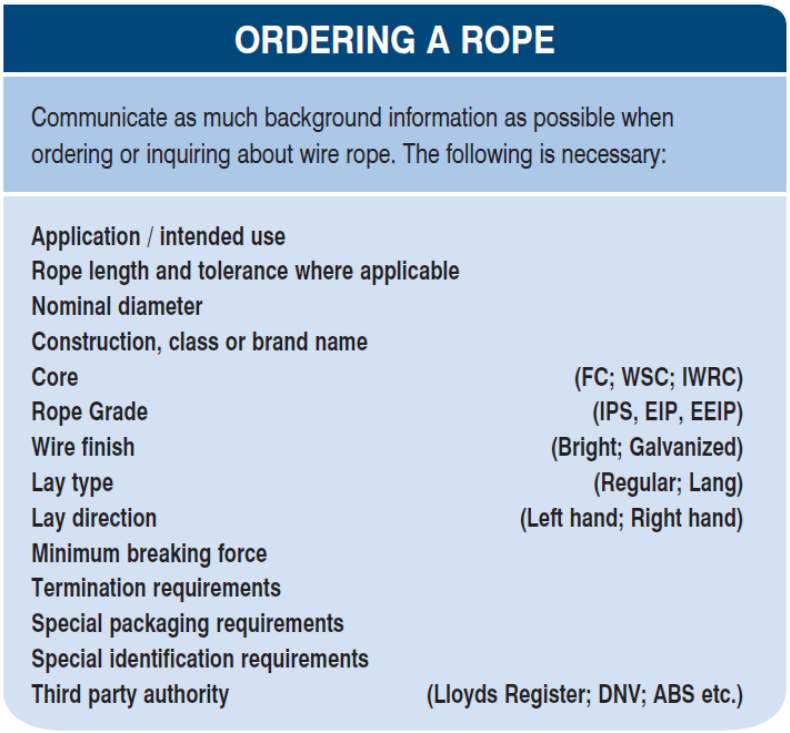


Figure 15: The Applicant compares its own 6 strand wire rope to those of competitors.

It will be noted from *Figure 15* that the Applicant describes its *Ultra* rope as being *"a very popular upgrade choice among clients"*. Here, the Applicant all but declares that its Ultra rope is better than other 6 strand wires ropes, and that choosing the 6 strand *Ultra* over other 6 strand ropes represents an upgrade for clients.

Thus, on one hand, the Applicant asserts that 9 strand wire ropes have the same general physical characteristics as wire ropes with fewer than 9 strands. On the other, the Applicant promotes ropes based on physical characteristics that differ even among ropes having the same number of strands. The hypocrisy is clearly apparent. When considering wire ropes at the level of detail that is called for, 9 strand wire ropes simply cannot be said to have the same general physical characteristics as ropes with fewer than 9 strands. If the Applicant maintains that such a conclusion can honestly be reached, then there is clear cause to question the authenticity with which the Applicant promotes its own ropes.

The Applicant also contends in its Application that *"if you were to sight the 8 strand rope and 9 strand rope laid out in front of you, it would be difficult to differentiate between the two ropes"*. As should be clear by now, the selection of wire rope is not based on their appearance. Unlike products such as clothing or paintings, wire rope is not a product whose purchase or otherwise is predicated on visual appearance. A wire rope customer does not walk down a proverbial shopping aisle, holding one rope up against another, visually comparing them to determine which would look best on its crane or dragline machine. Consider the Applicant's own instructions to customers on how to order wire rope, an excerpt of which is shown in *Figure* 16[41] below:



ORDERING A ROPE

Communicate as much background information as possible when ordering or inquiring about wire rope. The following is necessary:

Application / intended use	
Rope length and tolerance where applicable	
Nominal diameter	
Construction, class or brand name	
Core	**(FC; WSC; IWRC)**
Rope Grade	**(IPS, EIP, EEIP)**
Wire finish	**(Bright; Galvanized)**
Lay type	**(Regular; Lang)**
Lay direction	**(Left hand; Right hand)**
Minimum breaking force	
Termination requirements	
Special packaging requirements	
Special identification requirements	
Third party authority	**(Lloyds Register; DNV; ABS etc.)**

Figure 16: The Applicant requests at least the above information from customers ordering rope.

The Applicant's contention that the 8 and 9 strand ropes look similar is all but irrelevant in the context of wire ropes. Making this contention with the hope that it might persuade the Commission that 8 and 9 strand ropes are alike surely involves a misplaced assumption that the Commission will fail to inquire and thus will be ignorant as to the production, performance and price differences between different wire ropes, and exploiting that ignorance by disguising irrelevant information as legitimate argument.

Given the complex nature of wire rope, which the Applicant openly acknowledges (recall *Figure 12*: *Applicant's catalogue acknowledges the "complex nature of wire rope"*), to put forward such a trivial argument relating to visual similarities between 9 strand ropes and 8 strand ropes is surely a sign that the Applicant is not engaging in an intellectually honest or technically appropriate discussion about wire ropes, and is simply pulling out all the stops – and doing so invalidly – in an attempt to further tighten its dominance of Australia's wire rope markets.

This brings us to the actual physical characteristics of Scaw's 9 strand wire rope.

The 9 strand wire rope exported by Scaw provides various advantages over Scaw's 6 and 8 strand ropes. Since there are numerous rope construction characteristics that affect rope properties, it

[41] See, < http://provinteccr.com/wp-content/uploads/2015/12/Cable-de-Acero.pdf>, page 8. (Attachment 11)

should be clear that property differences between wire ropes cannot necessarily be attributed to any one construction characteristic, such as strand quantity. Therefore, the below is not a declaration that **all** 9 strand wire ropes offer these advantages over lesser-stranded ropes. Instead, the below outlines advantages of Scaw's 9 strand wire rope over Scaw's 6 and 8 strand wire ropes.

(a) Stronger

Scaw's 9 strand wire rope is a more compact rope than its 6 and 8 strand ropes. This is because Scaw's 9 strand rope has a greater *fill factor* than its 6 and 8 strand ropes (recall from page 12 that a rope's fill factor influences its strength). Scaw's 9 strand wire rope thus tends to have a higher MBL, thereby resulting in increased rope life.

The 9 strand's increased rope life allows customers to reduce the frequency with which ropes must be changed (ropes weaken over time and must be changed in accordance with strict schedules before they break). Since the stronger 9 strand ropes do not need to be changed as often, downtime at mine sites can be reduced, thereby lowering associated economic losses.

(b) More flexible

> *As a general rule of thumb, the more wires in a [rope] construction, the more flexible a [rope] will become.*[42]

Moreover:

> *…strands made of smaller diameter wires are more flexible.*[43]

With reference to *Table 3* below, Scaw's 9 strand wire rope employs both of these construction characteristics; while the outer strands are composed of slightly fewer and larger wire diameters, the independent wire rope core of the 9 strand wire rope comprises more but smaller diameter wires, leading to increased flexibility. Consequently, Scaw's 9 strand wire ropes are typically more flexible than its 6 and 8 strand wire ropes, and are thus:

- easier to install;
- easier to handle (e.g. during socketing of a rope);
- more resistant to fatigue; and
- more likely to spool out properly (e.g. from a drum) rather than kink, thereby allowing the 9 strand wire rope to be reused rather than discarded (compare *Figure 17* and *Figure 18* below).

[CONFIDENTIAL DIAGRAM DELETED – cross sections of Scaw wire ropes]

Table 3: a comparison of three of Scaw's 83mm diameter ropes.

42 See, http://blog.loosco.com/bid/75497/shedding-light-on-common-cable-questions

43 See, https://www.mazzellacompanies.com/Resources/Blog/what-is-wire-rope-specifications-classifications-construction

Figure 17: this is a photo of one of Scaw's 9 strand ropes bending quite significantly after an over-spool of the rope on the drum. The rope stayed intact and no deformation or kinking occurred. This rope was capable of being re-installed on the machine and saved the mine site six hours in downtime, plus the cost of another set of ropes.

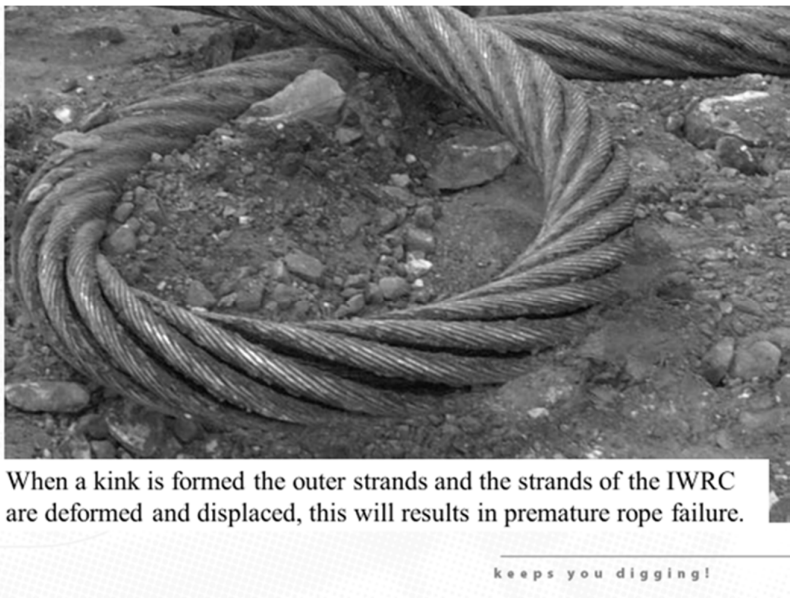


Figure 18: In comparison, the outer strands of the above bent 8 strand rope has undergone significant deformation, which, in many cases, means the rope cannot be re-installed.

(c) Increased abrasion resistance

Scaw's 9 strand ropes are more resistant to abrasion than Scaw's 6 and 8 strand wire ropes. By having more strands, more of the exterior surface area of the rope is available to share any loading against a surface and thus consequent abrasion. This is illustrated in *Figure 19:*

[CONFIDENTIAL DIAGRAM DELETED – cross sections of Scaw wire ropes]

Figure 19: the 9 strand rope presents a greater surface area that can contact the sheave and thus share the abrasion.

Consequently, Scaw's 9 strand ropes wear better than Scaw's 6 and 8 strand ropes, particularly when traveling through smaller sheaves. Again this presents customers with longer rope lives.

(d) Non-rotation properties

Referring back to *Figure 7*, when a wire rope is loaded, torque is created within the rope as its wires and strands try to unlay and straighten out. For example, a rope that is loaded at one end and fixed at another will be inclined to rotate the load.

To combat this rotation, the lay of a rope can be specifically configured (recall rope lay from *Figure 9*). For example, the strands that make up the core of a rope can be wound in one direction (e.g. left hand ordinary lay), while the outer strands of that rope can be wound in the opposite direction (in this example, right hand Lang's lay). This is illustrated in *Figure 20*[44] below. In this way, the tendency of the core to rotate in one direction is counteracted by the tendency of the outer strands to rotate in the opposite direction.

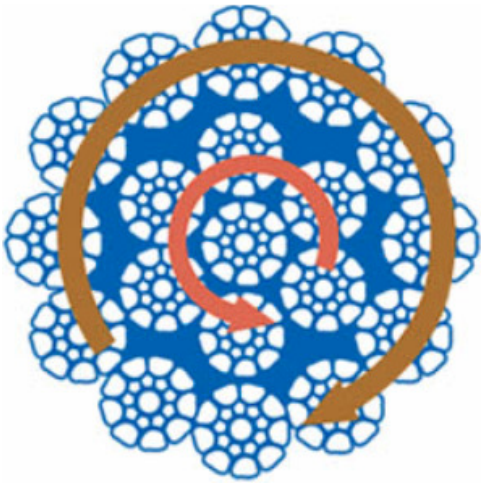


Figure 20: in this rotation-resistant rope, the strands of its core are laid in the opposite direction to the rope's outer strands.

Two rope construction characteristics must be considered when it comes to rotation-resistance:

- the larger the cross-sectional area of a rope's core (e.g. larger relative diameter of core vs diameter of entire rope), the greater the torque that can be generated by that core to counteract the torque generated in the rope's outer strands; and
- the cross-sectional area of a rope's core grows with the number of outer strands.

In view of the above two considerations, it is a general rule of thumb that the more outer strands a rope has, the greater the cross-sectional area of its core (it is larger), and thus the core is more able to counteract torque in the rope's outer strands.

With ropes having no more than 8 strands, the cross-sectional area of the core is typically not large enough, relative to the cross-sectional area of the strands, to generate any meaningful counteracting torque. However, with ropes having 9 or more strands, torque generated in the

[44] See https://www.steelwirerope.org/steelwirerope/rotation-resistant-wire-rope.html

core can begin to have significant rotation-resistant effects.

[CONFIDENTIAL TEXT DELETED – Scaw research and development].

(e) Increased fatigue resistance

With reference to the 8 strand wire rope depicted in *Table 3* above, **rovings** are wound into the rope between the independent wire rope core (**IWRC**) and the outer strands. These rovings are composed of 3 polypropylene "wires" wound together. The rovings serve to absorb and cushion stresses from radial loading from the outer strands upon the IWRC. Without these rovings absorbing radial loading from the outer strands, the IWRC is prone to increased wear and fatigue, leading to earlier rope breakage.

In contrast, the 9 strand wire rope does not utilise such rovings. This is because the increased relative diameter of the core results in an increased surface area upon which internal stresses from radial loading can be uniformly distributed. The IWRC of the 9 strand wire rope is thus less prone to fatigue from radial loading from the surrounding outer nine outer strands.

In view of the above, not only is Scaw's 9 strand wire rope different to what it has previously sold in South Africa and exported to Australia, it is also an improvement over its 6 and 8 strand ropes.

As stated by Pierre Verreet, managing director at *Verope* (a leading wire rope producer):

> *Rope manufacturers need to produce ropes with **high fill factors**, for example, **high breaking loads**, **good non-rotation properties**, **increased form stability** and **high flexibility** in order to **allow proper spooling** of increased rope length under changing load spectrums.*[45] [emphasis added]

Scaw's 9 strand wire rope represents a new product offering to customers. It resonates with Verreet's "call to action" for rope manufacturers to make stronger and more flexible ropes with non-rotation properties. Scaw's 9 strand rope represents a new "class" or type of rope which, to the knowledge of Scaw and Haggie Reid, the Australian industry is presently unable to produce. Our clients' expectation is that the Australian industry could only do so by substantially modifying or upgrading its rope making equipment and processes.

The technical advantages provided by Scaw's 9 strand rope are being realised as the rope is trialled in various mine sites. For example, **[CONFIDENTIAL TEXT DELETED – customer identification]**:

> **[CONFIDENTIAL TEXT DELETED – customer feedback re rope performance]**.[46]

The email relates to a mine site machine whose previous ropes had to be swapped out every nine or 10 days. Scaw's 9 strand wire rope achieves a rope life of 15 days on the same machine. This represents an approximately 57% increase in rope life, drastically reducing the annual downtime necessary for rope inspection and replacement.

Scaw's 9 strand rope offers improvements over its 6 and 8 strand ropes, and developing it was not a trivial matter. Scaw recognised the shortcomings of existing wire ropes and sought to address them, and it was this commercial drive to innovate that resulted in Scaw's 9 strand wire rope coming into production. Scaw has sought patent protection for particular aspects of its 9 strand wire rope, starting with an Australian provisional patent application filed on 21 August 2017. Excerpts from the corresponding patent specification set out below reveal Scaw's innovative mindset as it sought to address industry problems:

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45 See, https://www.khl.com/features/flexibility-in-wire-rope/30401.article (Attachment 12)

46 **[CONFIDENTIAL TEXT DELETED – customer identification]**. (Attachment 13) **[CONFIDENTIAL ATTACHMENT]**

[D]ragline ropes are one of the most heavily used components on a dragline and are a significant expense for a mine. They are prone to fatigue and wear and commonly need replacing on mine sites.[47]

Existing dragline ropes include a core and either 6 or 8 outer strands around the core. This leaves a significant empty space and low steel fill factor across the nominal diameter of the dragline rope due to the space between abutting strands. Due to the relatively large diameter of the outer strands in a 6 or 8 strand rope fatigue is an issue and weakness for existing draglines.[48]

Having at least nine outer strands makes the dragline rope stronger and reduces fatigue compared to lower numbers of outer strands due to reduced operating stresses. For a dragline rope of the same diameter with less outer strands, the at least nine strands also allows the independent wire rope core to be larger and the dragline rope more flexible. Having at least nine outer strands provides a larger contact surface area between the outer strands and the independent wire rope core reducing fatigue.[49]

Scaw has since progressed with the patent application process, filing an Australian innovation patent as well as a corresponding "international" patent application under the Patent Cooperation Treaty.

Suffice it to say, the Applicant's assertion that Scaw's 9 strand wire rope has the same general characteristics as Scaw's 6 and 8 strand ropes is plainly wrong.

2 Production differences

Before delving into the differences in production processes between 9 strand wire rope and its predecessors, we should first appreciate the fact that "similar" production processes do not necessarily beget "similar" products. For example, the process to produce a V6 engine would be similar to that of a V8 engine, though no sensible automobile enthusiast or expert would claim one engine to be a slight modification of the other. It is simply common sense that certain products within the same family category (e.g. different engines, ropes, mobile phones) are produced via similar processes. This is especially true when it comes to highly specialised products, because they require highly specific tooling and machinery. Consequently, it would be short-sighted to conclude that products produced by similar processes must be slight modifications of one another. With this preface out of the way, we now embark on a brief overview of two crucial aspects of the wire rope making processes.

(a) Production process

First, each strand of a wire rope must be formed. This includes forming the core of the rope if the rope utilises an IWRC. Strands are formed by stranding machines; for illustrative purposes, an example of a stranding machine loaded with copper wires is shown in *Figure 21*[50] below.

47 Australian provisional patent application no. 2017903354, page 1. (Attachment 14)
48 Ibid.
49 Ibid.
50 See, http://www.queins.com/cache/2e80babc5c77519ee1aa229b1da70363.jpeg

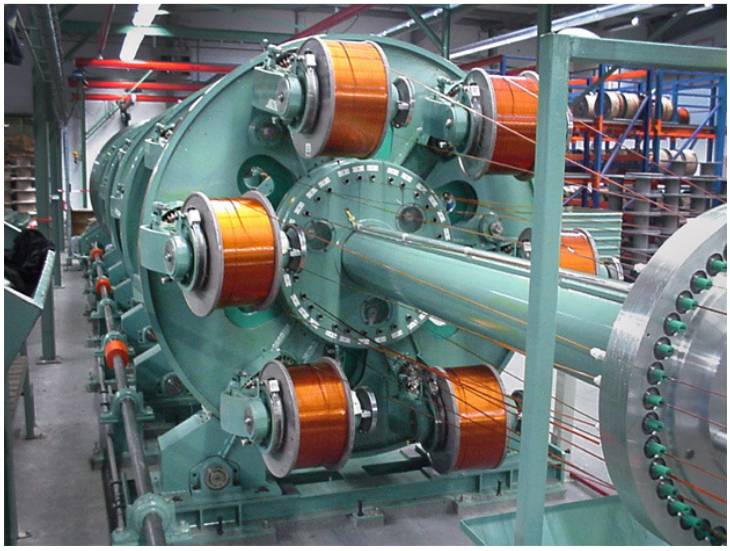

Figure 21: front perspective view of a stranding machine.

As can be seen, six bobbins spooled with copper are loaded at the front of the stranding machine. Though not shown, more bobbins are loaded along the length of the machine, which is what the wires extending out from the "central disc" at the front of the machine are connected to. *Figure 22*[51] and *Figure 23*[52] below depict another stranding machine with bobbins loaded along its length.

Figure 22: front perspective view of another stranding machine.

51 See, https://bit.ly/2wBmKNa, approximately 0:54 seconds.
52 Ibid, at approximately 49 seconds.

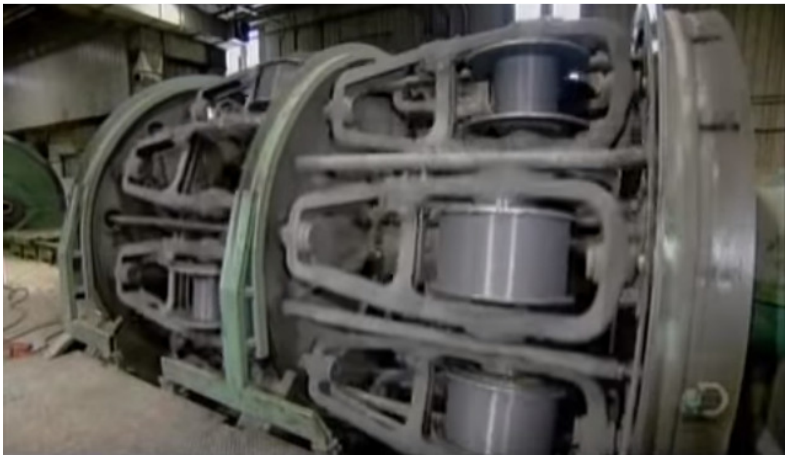

Figure 23: side view of the stranding machine of Figure 21; bobbins are loaded along the length of the machine.

To form a single strand with, say, 31 wires, 31 individual bobbins are loaded onto the stranding machine, which spins around and winds the 31 wires together to form the strand. *Figure 24*[53] below depicts the "strand forming point" where the wires converge to form a strand.

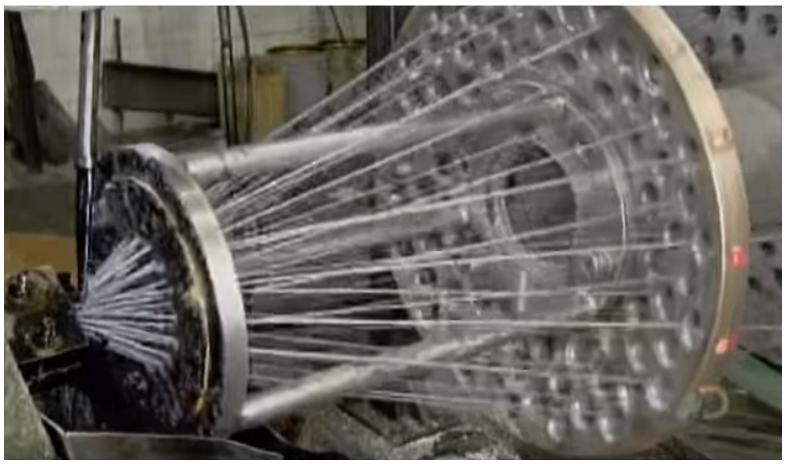

Figure 24: Aptly called a "strand forming point", the wires extending from the stranding machine converge and are wound together and covered in lubricant, forming a single, lubricated strand.

As previously discussed with reference to non-rotation properties of ropes, the more strands a rope has, the larger the core must be. Moreover, to achieve a rope with increased flexibility, the core of Scaw's 9 strand wire rope uses more and thinner wires, rather than less and larger wires. Therefore, not only is the core of Scaw's 9 strand wire rope larger, relative to ropes with fewer strands, it utilises even more wires. Consequently, the stranding process just to create the core of Scaw's 9 strand wire rope uses more raw material, more bobbins, and takes longer (not to mention that at least one additional outer strand needs to be formed). Clearly, even at the strand and core-forming stage of wire rope production, Scaw's 9 strand wire rope demands an increased level of complexity, and incurs corresponding time and financial costs.

53 Ibid, at approximately 1 minute and 20 seconds.

Once all nine strands and a core have been formed, a machine called a "closer" is used to wind each of the 9 strands around a core to form a wire rope. An example of a closer is shown in *Figure 25*[54] below, which shows an eight strand closer being used to close a 6 strand wire rope.

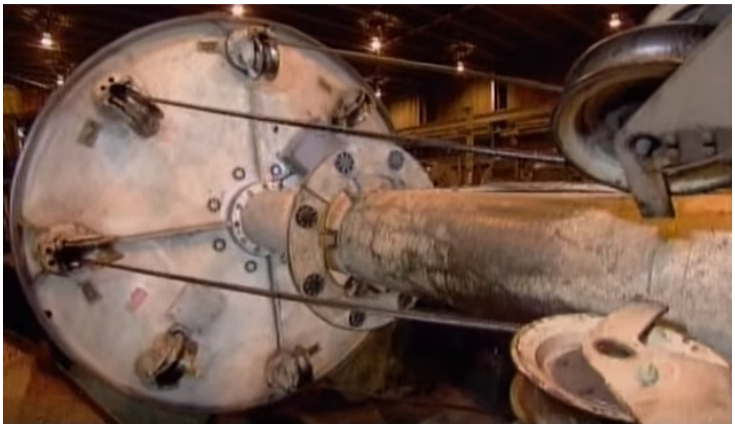

Figure 25: Six individual strands are supported on the closer. The closer rotates to wind the strands together over a core to form a 6 strand wire rope.

Strands are not wound together arbitrarily to form a wire rope. Instead, they are wound in specific configurations based on factors such as strand quantity. With reference to *Figure 26* below, it can be seen that each of the six strands "snakes" around the core in a helical fashion, as indicated by the path of the orange arrow.

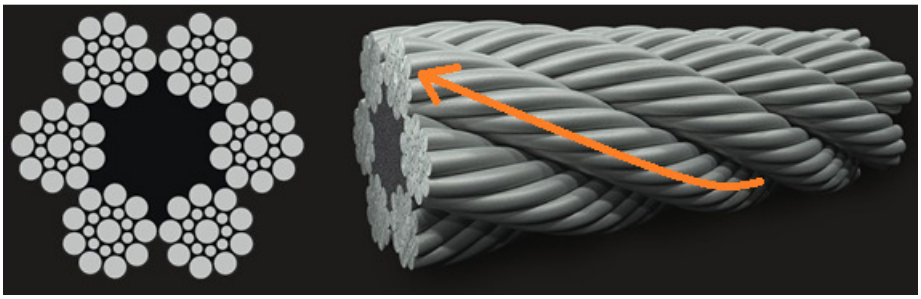

Figure 26: Helical winding of each strand of a 6 strand wire rope (arrow added).

To achieve this helical winding of each strand, the strands extending from the closer must be pre-shaped by a "pre-former head". An example of a pre-former head is shown in *Figure 27*[55] below.

54 Ibid, at approximately 2 minutes and 24 seconds.
55 See, https://www.barproductsandservices.com/preform-head-2/

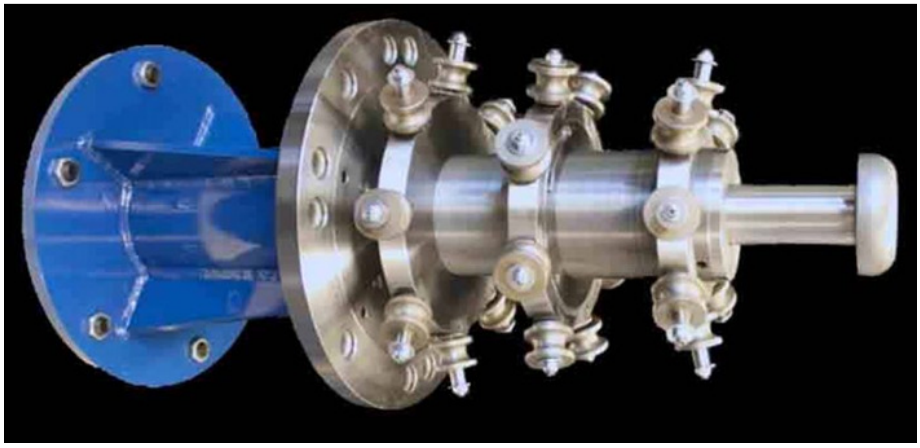

Figure 27: a pre-former head has rollers which "bend" each strand during the closing process so that the strands can uniformly and tightly wind over a rope core.

Figure 28,[56] *Figure 29*[57] and *Figure 30*[58] below show a pre-former head in action. Each of the six strands extend from the closer of *Figure 25* and are fed onto the pre-former head where they are bent by a series of rollers. This bending pre-shapes each strand, giving them the necessary profile to be helically wound onto the core of the rope.

Figure 28: the six individual strands proceed from left to right, and are each pre-shaped by a series of rollers on the pre-former head.

56 See, https://bit.ly/2wBmKNa, at approximately 2 minutes and 37 seconds.
57 Ibid, at approximately 2 minutes and 32 seconds.
58 Ibid, at approximately 2 minutes and 39 seconds.

Figure 29: close-up of a strand being pre-shaped by rollers of the pre-former head.

Figure 30: the rollers of the pre-former head pre-shape the strands into a spring-like form so they can be helically wound onto a core (right side of figure).

The helical profile that a pre-former head imparts upon strands varies depending on the diameter of the wire rope being formed, strand quantity, core size, etc. **[CONFIDENTIAL TEXT DELETED – Scaw factory machine detail]** For comparison, *Figure 31* below shows Scaw's **[CONFIDENTIAL TEXT DELETED – Scaw factory machine detail]** pre-former head for forming 6 strand wire ropes, and *Figure 32* and *Figure 33* show Scaw's **[CONFIDENTIAL TEXT DELETED – Scaw factory machine detail]** pre-former head for forming 9 strand wire ropes.

[CONFIDENTIAL PHOTO DELETED – Scaw factory machine detail]

Figure 31: Side view of Scaw's **[CONFIDENTIAL TEXT DELETED – Scaw factory machine detail]** *pre-former head for forming 6 strand wire ropes*

[CONFIDENTIAL PHOTO DELETED – Scaw factory machine detail]

Figure 32: Side view of Scaw's **[CONFIDENTIAL TEXT DELETED – Scaw factory machine detail]** *pre-former head for forming its 9 strand wire ropes*

[CONFIDENTIAL PHOTO DELETED – Scaw factory machine detail]

Figure 33: front perspective view of Scaw's **[CONFIDENTIAL TEXT DELETED – Scaw factory machine detail]** *9 strand pre-former head*

Scaw's **[CONFIDENTIAL TEXT DELETED – Scaw factory machine detail]**.[59]

Moreover, Scaw's tooling needs to be reconfigured to produce 9 strand wire ropes. For example, **[CONFIDENTIAL TEXT DELETED – Scaw factory process detail]**. Switching pre-former heads typically takes up to **[CONFIDENTIAL TEXT DELETED – number]** hours. This increase in time and labour costs is far from insignificant, not to mention the extended and costly manufacturing downtime.

The Applicant asserts that the production process to manufacture the 9 strand wire rope and the 6 and 8 strand wire ropes are similar. This can only be the case if the production process is assessed at the very general level of detail that the Applicant repeatedly relies on (e.g. both production processes involve stranding machines, closers and pre-former heads). The Applicant clearly prefers to keep any discussion about wire ropes at this very general level of detail because once one considers wire ropes more carefully and at the level of detail that is warranted, the Applicant's assertions break down. The Applicant's assertion here about production processes is no exception.

Thus, as evidenced by the above, in order to produce the 9 strand wire rope Scaw has altered crucial wire rope production processes (stranding and closing), **[CONFIDENTIAL TEXT DELETED – Scaw factory machine detail]**. Any assertion that such drastic changes would nevertheless constitute similar production processes to what had been used before surely requires an inability to comprehend the technical complexities of wire rope production, or a misleading assertion as to those complexities.

(b) Cost of production

The increased costs associated with producing 9 strand wire ropes are shown in *Figure 34* below:

[CONFIDENTIAL TABLE DELETED – comparative production costs]

Figure 34: Unsurprisingly, Scaw's 9 strand wire rope costs more to produce than its 6 and 8 strand wire ropes.

The different production costs are not insignificant. They result from the 9 strand wire rope requiring more material and more complex production processes. For example, compared with an 8 strand wire rope of the same diameter, a 9 strand wire rope:

- requires about **[CONFIDENTIAL TEXT DELETED – number]**% more steel
- requires about **[CONFIDENTIAL TEXT DELETED – number]**% more grease
- reduces throughput by about **[CONFIDENTIAL TEXT DELETED – number]**% because more and smaller diameter wires need to be drawn for the independent wire rope core
- incurs about a **[CONFIDENTIAL TEXT DELETED – number]**% longer winding time

[59] Attachment 15 **[CONFIDENTIAL ATTACHMENT]**

since more and smaller diameter wires are used

- incurs about a **[CONFIDENTIAL TEXT DELETED – number]**% longer closer loading time due to an extra bobbin that is required to close a 9 strand wire rope
- results in about **[CONFIDENTIAL TEXT DELETED – number]**% more scrap material from the ninth strand
- results in about **[CONFIDENTIAL TEXT DELETED – number]**% more scrap material from the core
- incurs about a **[CONFIDENTIAL TEXT DELETED – number]**% **[CONFIDENTIAL TEXT DELETED – factory process]**

3 Marketing and sales

(a) Marketing

The Applicant asserts that Scaw's 9 strand wire ropes and its 6 and 8 strand wire ropes *"are marketed in the same manner as previous to the publication of the [dumping] notice"*.[60] It is unclear what the Applicant is trying to argue with this assertion.

In its own application, the Applicant cites promotional material specifically marketing Scaw's 9 strand wire rope (referred to as the "Inno 9"), as quoted below:

- 12 December 2017 – Inno 9 brochure reported in South Africa;[61]
- 9 March 2018 – BBRG Australia sights promotional "9 strand" cap at mine sites.[62]

So, the Applicant acknowledges that Scaw's 9 strand wire rope has been specifically marketed and promoted, and yet this is somehow problematic, and constitutes marketing that is done in the same manner as Scaw's 6 and 8 wire strands? Should Scaw and/or Haggie Reid be marketing its 9 strand wire ropes in a different manner? E.g. with viral videos, virtual reality experiences, and flash mobs?

Why *wouldn't* a company market its new products/services in the same "manner" as it does its previous products/services? Most companies, like Scaw and Haggie Reid, do not switch customers and/or industries rapidly, and it would be a rather strange marketing strategy to simply start marketing new goods and services in entirely different manners.

In any event, marketing material used to promote Scaw's 9 strand wire rope has been provided to the Commission via email and entitled "Attachment 19 – Scaw Inno 9 brochure".[63] An excerpt from the brochure is shown in *Figure 35*:

60 001 – Application – Australian Industry – Bekaert Wire Ropes Pty Ltd, page 8.
61 Ibid, page 4.
62 Ibid.
63 Attachment 16.

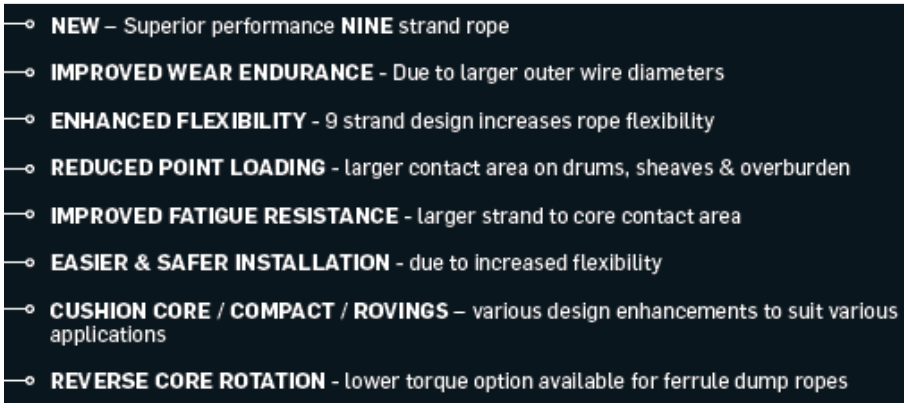

Figure 35: advantages of the 9 strand wire rope listed on marketing brochure.

It is clear that the 9 strand wire rope is promoted as a new product which offers a number of technical advantages over existing products.

(b) Customer preferences and expectations

The Applicant asserts that customer preferences and expectations relating to Scaw's 9 strand wire ropes and Scaw's 6 and 8 strand wire ropes are the same. This assertion is shamelessly false and is made disingenuously. There can be no valid evidence for such an assertion.

Scaw's 9 strand wire rope represents an improved product, with a higher price tag compared to Scaw's 6 and 8 strand ropes. Customers were and are well aware of this. For example, **[CONFIDENTIAL TEXT DELETED – customer identification and feedback re sales]** on the basis that it could deliver a longer rope life.

Haggie Reid recently surveyed a number of its customers, results of which are attached hereto. It is worth noting some of the considerations that Haggie Reid asked its customers to rate and comment on, and their comments in return:

(1) Product explanation by Haggie Reid staff regarding the new 9 strand wire rope - The fact that Haggie Reid's staff were deeply and critically engaged in explaining the new 9 strand wire rope to customers is a strong indicator that it is not a readily interchangeable product for existing 6 or 8 strand wire ropes. Seamlessly switching from one type to the other is simply not possible, and the 9 strand product was never promoted to the contrary. The fact that survey responses indicated that Reid's explanation of the 9 strand wire rope was "good" or "excellent" suggests Reid's explanatory efforts were appreciated, and not unnecessary, as would be the case if it was a simple matter of switching old ropes to the 9 strand wire rope.

(2) Quality of promotion of 9 strand wire rope (marketing and technical material provided) - As is clear, switching ropes is no trivial matter, and Haggie Reid has been actively promoting its 9 strand wire ropes. The survey responses indicate that the quality of this marketing material is either "good" or "excellent", suggesting that the information conveyed was useful and informative. If the 9 strand wire rope is indeed as similar to 6 and 8 strand wire ropes as the Applicant argues, why bother extolling and explaining its differences? If it was the same then the line of least resistance with Haggie Reid's customers would have been to promote its sameness. That, however, would be lying.

(3) Product quality and performance of the 9 strand wire rope - It is worth noting that one survey response commented that the mine site was *"still trialling"* the 9 strand

wire rope. If wire ropes were readily interchangeable products and customers could simply substitute one for another, why might a customer indicate their uncertainty about the suitability of the 9 strand wire rope by saying that they are still trialling it? Clearly, the 9 strand wire rope represents a deviation from existing wire ropes, and actual trials are required to confirm the suitability of a 9 strand rope for any particular application at any particular mine site. This point is reinforced by a comment provided in another survey response, reproduced below:

[CONFIDENTIAL TEXT DELETED – customer feedback][64]

(4) Technical expertise and support offered - It is pleasing for Haggie Reid to see that the survey respondents answered "excellent" with respect to the technical support that Haggie Reid's operatives have provided. However more importantly, and more revealingly, is the fact that technical support was required, and that it was required in large measure. This drills home the point that switching wire ropes is no trivial matter. It is an involved process that requires consultation and involvement from many parties, including Haggie Reid (this is elaborated upon in relation to change management, below).

Looking across the survey responses, it can be seen that based on Haggie Reid's promotion of the 9 strand wire rope, customers expected **[CONFIDENTIAL TEXT DELETED – customer feedback]**[65] and that the 9 strand wire rope **[CONFIDENTIAL TEXT DELETED – customer feedback]**[66]

Obviously, the Applicant's assertion — that customer preferences and expectations relating to the 9 strand wire ropes and the 6 and 8 strand wire ropes are the same — is groundless. The Applicant has sighted marketing material used to promote the 9 strand to customers, as acknowledged on page 4 of the Applicant's application. It is rather bewildering then that the Applicant would still go ahead and assert that Haggie Reid's customers would expect the same thing of 9 strand wire ropes, despite knowing how Reid is promoting the 9 strand rope to customers.

(c) Change management

As is clear, wire rope design and selection requires a consideration of myriad factors. Mine sites do not adopt new ropes haphazardly, and adopting the 9 strand wire rope **[CONFIDENTIAL TEXT DELETED – customer considerations]**. We are instructed that Australian mine sites have not used wire ropes with 9 strands before now. Scaw and Haggie Reid have nonetheless accepted the challenge of bringing a new and different product to their attention. As such, Haggie Reid's own staff have themselves required further training, and its customers are now working through the extensive and involved change management process needed to ensure that Haggie Reid's 9 strand wire ropes represent a suitable and lasting choice.

The change management process for a particular **[CONFIDENTIAL TEXT DELETED – customer identification]** mine site is outlined below:

[CONFIDENTIAL TEXT DELETED – detailed explanation of multi-stage change management process]

The process for this particular **[CONFIDENTIAL TEXT DELETED – customer identification]** mine site to adopt Scaw's 9 strand dump ropes began in **[CONFIDENTIAL TEXT DELETED – month and year]**, when a Haggie Reid representative commenced discussions with **[CONFIDENTIAL TEXT DELETED – customer identification]**mine site representative. The

64 See survey filled out by **[CONFIDENTIAL TEXT DELETED – customer identification]**.
65 See survey filled out by **[CONFIDENTIAL TEXT DELETED – customer identification]**.
66 See survey filled out by **[CONFIDENTIAL TEXT DELETED – customer identification]**.

enumerated change management process above did not begin until **[CONFIDENTIAL TEXT DELETED – month and year]**, and took approximately **[CONFIDENTIAL TEXT DELETED – number]** months to complete. The first set of 9 strand wire ropes were not installed at the mine site until **[CONFIDENTIAL TEXT DELETED – date]**.

As is evident, such change management processes are involved, time-consuming but necessary to ensure that a mine site can safely and profitably adopt a new rope. Of course, the above change management process **[CONFIDENTIAL TEXT DELETED – customer identification]**. The entire process would have to be repeated **[CONFIDENTIAL TEXT DELETED – customer identification]** to adopt Scaw's 9 strand wire ropes.

(d) Rope trials

If the 9 strand wire rope represents a slight modification of existing 6 and 8 strand wire ropes, one would expect Haggie Reid to have simply rolled out its 9 strand wire ropes seamlessly, without needing to explain, trial, test or otherwise justify them. However, the opposite is true. In addition to the above change management processes, Scaw and Haggie Reid have both had to trial the 9 strand wire ropes to study their real world performance. This is acknowledged by the Applicant in its application, as quoted below:

> *It is also BBRG Australia's understanding that Scaw* ***conducted drag rope trials*** *at [company name] South African mine [mine name] in the fourth quarter of 2017, as well as at the [name] mine (owned by company name).*[67] [emphasis added]

We provide two reports detailing Haggie Reid's inspection of its own 9 strand wire ropes trialled at a **[CONFIDENTIAL TEXT DELETED – customer identification]** mine site in South Africa. The following excerpts from the reports are telling:

> **[CONFIDENTIAL TEXT DELETED – customer feedback]**[68]
>
> **[CONFIDENTIAL TEXT DELETED – customer feedback]**[69]
>
> **[CONFIDENTIAL TEXT DELETED – customer feedback]**[70]
>
> **[CONFIDENTIAL TEXT DELETED – customer feedback]**[71]

These reports evidence the fact that Scaw's 9 strand wire ropes represent a new product offering, the performance and feasibility of which has needed to be validated via prospective purchasers through "real world" trials. And, going on the reports that are filtering through, the improvements and benefits of the 9 strand ropes are being demonstrated and accepted.

(e) Pricing

The process for Scaw to produce 9 strand wire rope is more time and labour intensive, uses more raw material and produces more waste. This translates to increased costs and prices, as evidenced by the price lists that apply to them, both from Scaw to Haggie Reid,[72] and from Haggie Reid to Australian customers.

Clearly, wire ropes are not simple products, and one cannot simply compare a customer's

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67 001 – Application – Australian Industry – Bekaert Wire Ropes Pty Ltd, page 4.
68 Report: **[CONFIDENTIAL TEXT DELETED – customer identification and date]**, page 1. (Attachment 17) **[CONFIDENTIAL ATTACHMENT]**
69 Ibid.
70 Ibid.
71 Report: **[CONFIDENTIAL TEXT DELETED – customer identification and date]**, page 1. (Attachment 18) **[CONFIDENTIAL ATTACHMENT]**
72 Attachments 19 and 20 **[CONFIDENTIAL ATTACHMENTS]**

purchase prices of 6 or 8 strand wire ropes with those of 9 strand wire ropes. There are myriad "models" of wire rope which makes such simplistic strand-based comparisons rather contrived. Nevertheless, Reid's invoices and sales data suggest that, generally speaking, customers are paying **[CONFIDENTIAL TEXT DELETED – price information]**, as illustrated in *Table 4* below.

[CONFIDENTIAL TEXT DELETED – detailed price information]

Table 4: comparison document provided by Haggie Reid to customer with respect to 6, 8 and 9 strand ropes **[CONFIDENTIAL TEXT DELETED – customer identification]**.

With reference to the table above, it can be seen that the **[CONFIDENTIAL TEXT DELETED – number]** 9 strand drag rope used on **[CONFIDENTIAL TEXT DELETED – customer identification]** costs $**[CONFIDENTIAL TEXT DELETED – number]**, whereas the **[CONFIDENTIAL TEXT DELETED – number]** 6 strand drag rope used on the same machine costs $**[CONFIDENTIAL TEXT DELETED – number]**. The 9 strand wire rope thus costs **[CONFIDENTIAL TEXT DELETED – number]**% **[CONFIDENTIAL TEXT DELETED – price information]** than the "counterpart" 6 strand wire rope previously used on the same machine. As can be seen all 9 strand ropes offered **[CONFIDENTIAL TEXT DELETED – price information]** than the 6 and 8 strand wire ropes that preceded them.

[CONFIDENTIAL TEXT DELETED – customer feedback].

The 9 strand wire rope represents a premium product with technical advantages over existing 6 and 8 strand. For example, in certain dump rope applications the 9 strand wire rope offers a **[CONFIDENTIAL TEXT DELETED – number]**% greater life expectancy. The benefits of 9 strand wire rope stem from increased material, time and labour costs that go into (and have gone into) the development and production of the 9 strand wire rope, thereby resulting in **[CONFIDENTIAL TEXT DELETED – cost and price information]**.

E Direct misrepresentation on the part of the Applicant

In its Application, the Applicant refers to a section of a technical article published by Scaw/Haggie Reid which mentions disadvantages of 9 strand ropes, as reproduced below:[73]

- 26 April 2018 – search of Haggie Reid website identifies technical article indicating 9 strand ropes are 20 per cent weaker than 6 strand ropes and not suitable in "crush" applications (Non-Confidential Attachment 6);

The section referred to by the Applicant is reproduced in *Figure 36* below:

2.2 Single Layer Stranded Rope

These are by far the most usual type, the number of strands being six in nearly all cases. For traction type lifts, however, eight strand ropes (fig. 6) are generally used. Nine strand ropes are occasionally required for extreme flexibility, but their strength is almost 20% lower than a six strand rope of the same size, and resistance to crushing is poor. Three strand ropes are occasionally used for

[73] 001 – Application – Australian Industry – Bekaert Wire Ropes Pty Ltd, page 5.

Figure 36: excerpt from Reid's technical article which the Applicant has used out of context.

It is clear from the above excerpt that the discussion of 9 strand ropes therein is in relation to *"traction type lifts"* (e.g. elevators). Wire rope that is used for such lifts typically has a fibre core, as opposed to a steel independent wire rope core (IWRC) used in Scaw's 9 strand wire ropes. Fibre cores used for lift applications contribute a negligible amount of strength to the actual rope used to hoist the lift. Such cores function primarily to support the rope's outer strands. This is why 9 strand wire ropes, as purposed for traction type lifts, can be said to be weaker and to have poor crush resistance.

The Applicant has misrepresented the statement in this article *about lift cables* in an attempt to discredit Scaw's 9 strand wire ropes *used in mining operations*. The suggestion made - on the public record - that our clients think lowly of 9 strand wire ropes is both deceitful and damaging. We know of no other reason why this would have been said. Indeed, if the Applicant was indeed intending to suggest that our clients' 9 strand wire ropes were 20% weaker than 6 strand ropes, it would be disproving its own case – in that a 20% weaker rope is presumably not a slight modification of the rope to which it is being compared.

The Applicant may plead ignorance here, but such a plea should not be accepted. The Applicant is a knowledgeable wire rope manufacturer. The Applicant would be more than well aware of differences between wire ropes used for traction type lifts and wire ropes used in other applications. By taking this section of the article out of context, the Applicant presumably sought to tarnish the reputation of 9 strand wire ropes (which it presently cannot manufacture) and also to engage in corporate defamation of our clients. Our clients deplore that conduct.

F Conclusion

1 Wire ropes are complex products whose design, production, selection, installation and use demand specialist skills and knowledge.

2 The Applicant's own marketing material and technical data sheets reinforce the fact that even ropes having the same number of strands can vary drastically in their properties and performance.

3 Any assertion that 9 strand wire ropes constitute a slight modification of 6 and 8 strand wire ropes largely ignores the technical and commercial realities of the wire rope industry.

4 The Applicant has pulled out all the stops in its attempt to tighten its stranglehold on Australia's wire rope industry, including:

- submitting gross oversimplifications and disingenuous misrepresentations of the nature of wire ropes, despite the Applicant's own contradicting promotional material;
- making assertions that are either baseless or actually contradict its own elsewhere presented views; and
- taking technical information issued by Scaw/Haggie Reid out of context in what appears to be a flagrant attempt to publicly discredit our clients and their 9 strand wire ropes.

5 In actuality, Scaw/Reid's 9 strand wire rope represents a new product offering which:

- provides technical improvements over its 6 and 8 strand wire ropes, resulting in significant reduced downtime and annual cost savings to mine sites;

- is produced with altered processes which incorporate Scaw's **[CONFIDENTIAL TEXT DELETED – factory machine detail]**;
- costs **[CONFIDENTIAL TEXT DELETED – cost and price information]** produce and to buy;
- requires qualification by customers through intensive trialling and continued commercial use through new change management processes; and
- is expected by customers to offer more to them in useability and savings, particularly with regard to increased rope life.

In view of all of the above, 9 strand wire rope exported to Australia from South Africa does not constitute a slight modification of the goods in respect of which the dumping duty notice applies.

Yours sincerely

Warren Wong
Mechanical Engineer
Patent Attorney