



### Genuine VS Non Genuine

Currently customers have the choice to purchase non genuine and genuine parts. However, it is crucial to purchase genuine parts from your nearest Kobelco dealer as genuine parts are especially made or selected by us and rigorously tested by the vendors to meet the high quality. Most importantly it is important to use genuine parts to maintain the safety and quality of your crane. If you choose to purchase parts not certified by Kobelco there will be no warranty coverage and we will not take any responsibility for any accidents. We would like to explain why genuine wire ropes are better in quality.

#### 1. Understanding the "Class" types of wire ropes

Wire ropes are classified depending on the nominal tensile strength of the wires that make up a rope.

There are four types of classes, E,G,A and B which are standards set forth by JIS (Japanese Industrial Standards Committee). There is the Class (C) which has a higher nominal tensile strength compared to the JIS standard. Kobelco genuine wire ropes have even a higher standard the Class (C) type under "Specified Class". This "Specified Class" is what we mostly use for our Kobelco cranes and these ropes have been manufactured and developed closely between the vendor and Kobelco.

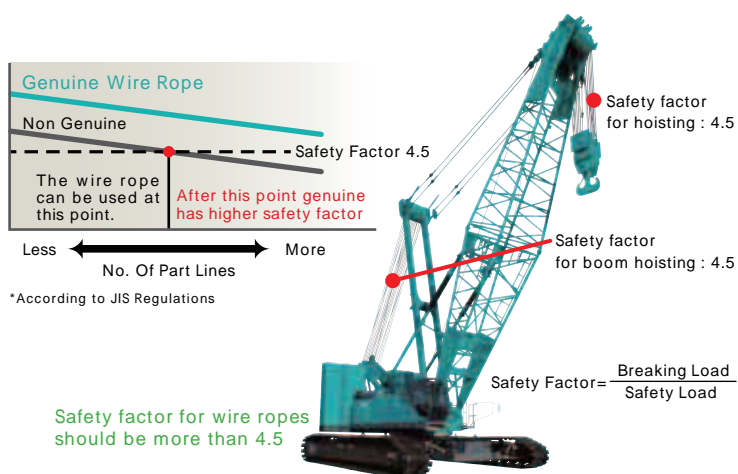
#### ● Example

Classification	Class	Nominal tensile strength of wire N/mm <sup>2</sup> (kgf/mm <sup>2</sup> )
JIS	Class E	1,320{135}
	Class G	1,470{150}
	Class A	1,620{165}
	Class B	1,770{180}
Wire rope manufacturer's high strength standard	Special class (C)	1,910{195}
Specified by crane manufacturer	Specified class	-

#### 2. Safety Factor

The safety factor of a wire rope is calculated based on the classification of wire, the breaking load and the number of part lines (number of sheaves) on the wire rope. For instance the more sheaves the wire ropes go through the more tension on the wire rope therefore the lower the safety factor.

Kobelco genuine wire ropes are made so that the safety factor does not go below 4.5 (set forth by Ministry of Health, Labour and Welfare) this is because the breaking load is 10~15% higher compared to non genuine wire ropes.



#### 3. Wire Rope Tolerance

There are two ways explain the diameter of the wire rope. "Nominal" diameter and "Actual" diameter. "Nominal" is the diameter which is designated and the "actual" diameter is based on the actual measurement indicated in millimeters. There is a wide tolerance of the wire rope which is from 0 to +7% under JIS regulation. With our cranes, if the diameter of the rope does not match the groove of our drums, it will cause rough spooling or even damage to your drum. Kobelco genuine wire ropes are manufactured under extremely strict tolerance of +3.7 to ±0.7%.

	Diameter Tolerance (%)	Example if the nominal diameter 22mm
JIS (Japan Industrial Standard)	+7 to 0	Dia. 22 to 23.54mm acceptable
KOBELCO Standard	+3.7 to ±0.7	Dia. 22.66 to 22.97mm only acceptable

#### ● Examples of the wire ropes on the groove of a drum

Due to the narrow tolerance of the Kobelco genuine wire ropes, each wire rope will fit into the groove of the drums perfectly.

ROUGH SPOOLING!!

If the tolerance is too wide and the diameter of the wire rope is too small or too big the wire ropes will not perfectly match the drum grooves, which causes... **ROUGH SPOOLING!!** Which will damage the groove of a drum!!