

④ Wire Rope with Profile Wires

(Tough-Rope, Tough-Super-Rope)

Tough-Rope and Tough-Super-Rope, among others, of this company are product names of special shape wire strands.

Recently, great advancements are being made in all kinds of industrial equipment and, together with this, the kinds of ropes used are changing from the cross lay rope to the super ropes (parallel lay ropes).

The use of the super rope is widening, testifying to its superiority.

However, the demand for “even higher performance and higher quality ropes” seems to know no end. In order to meet this demand, this company is carrying out research and development on improved types of super ropes.

As a result, this company has succeeded in developing a special shape wire strand rope which, at present, is displaying its merits in various kinds of uses.

As special processing die-forming is carried out on the strands for this rope and the hitherto method where the wires are in linear contact with each other has been changed to one where the wires are in surface contact, the surface of the strand is smooth.

■ Characteristic

(a)High breaking load

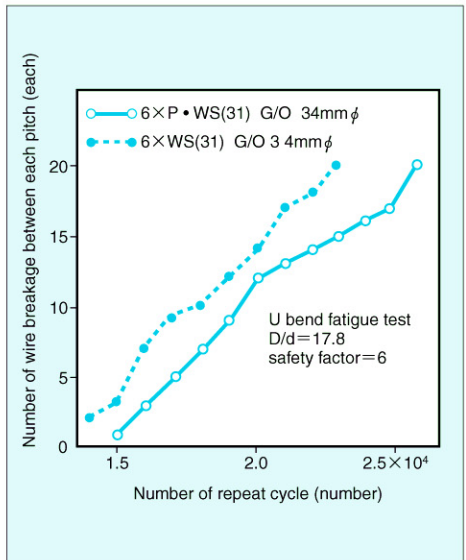
Compared to super ropes with the same diameter, the breaking load is approximately 13~18% larger, thus making the rope stronger.

(b)The fatigue resistance nature is good

As the strands are given a special processing the surface of the strand is smooth and as the lay of the strands are very fine there is no secondary bends and the fatigue resistance nature is superior compared to super ropes of the same construction. (See Fig. 5)

However, for example, in the case of a small sheave, around D/d , such as tension test use sheave, the fatigue resistance nature drops and the difference with the general round wire strand ropes practically disappears.

Fig. 5 ● Comparison of results of the fatigue test



(c)Superior wear resistance nature

As the surface of the strand is smooth, the wear due to the ropes coming into contact with each other, such as rubbing with the drum, with the sheave, or the roller, is small.

(d) Shape crumbling is low

As the strands are finely stranded the surface is smooth. Therefore, the rope winds smoothly around the drum, and the roller, and there is practically no crumbling of the shape.

(e) Drum, sheave, roller damage is low

As the surface of the rope is smooth, it winds smoothly around the drum, the sheave and the roller and the wear and tear of the rope is kept down to a minimum.

(Note)

1. The flexibility is somewhat low compared to general super ropes of the same construction but this does not hamper its ease of handling.
2. It can be used easily (by attaching and adjusting the ends) the same as the hitherto super ropes.

Main Types and Uses

Construction symbol		Main uses
Tough-Rope	$6 \times P \cdot 7$	Life use, forestry industry ropeway use, inclined shaft winch use, shaft digging guide rope use, cable crane main rope use
Tough-Super-Rope	$6 \times P \cdot Fi(29)$	Ropeway stay rope use, general crane use
	IWRC $6 \times P \cdot Fi(29)$	General crane use, heavy equipment use
	$6 \times P \cdot WS(31)$	General crane use, fisheries industry trawler use
	IWRC $6 \times P \cdot WS(31)$	General crane use, heavy equipment use
	$6 \times P \cdot WS(36)$	General crane use, ropeway stay rope use
	IWRC $6 \times P \cdot WS(36)$	General crane use, ropeway tug rope

(Note) Tough-Rope is the product name of the Tough-Super-Rope used for trawlers of the fisheries industry.