

# Rope Category Number RCN

**The correct allocation of our verope special wire ropes for determining the replacement state based on visible wire breaks according to ISO 4309.**

The International Standard ISO 4309 - „Cranes – Wire ropes - Care and maintenance, inspection and discard“, 4th edition 08/2010- provides comprehensive information. A frequent discard criteria, among many others discussed in detail by the standard, is the number of visible broken wires. Depending on the rope construction, categorized by the Rope Category Number RCN acc. to standard's annex G, the relevant crane classification M1 to M8 and given system such as a single- or multi-layer drum, the discard criteria can be determined by the number of visible broken wires. This means besides the rope construction it is also the relevant machine used its design and classification that determines the discard criteria. Therefore it is no longer possible to give a general number of visible broken wires for a given rope construction, signaling discard. To give you the correct allocation of your verope special wire rope to this International Standard ISO 4309, please find below the respective classification of the “Rope Category Number RCN”. Please note that within a rope construction its RCN-number may change depending on rope's nominal diameter. With this information, you can now determine in compliance with the actual type of your application the number of visible broken wires, signaling discard of the rope.

If you have any further questions regarding discard please don't hesitate to contact us. We are happy to assist you!

## Rotation-resistant ropes

verope high performance wire rope construction	Number of load-bearing wires in the outer strands	Rope category number RCN acc. ISO 4309	Number of visible broken wires acc. ISO 4309 <sup>1</sup>			
			relevant rope parts see footnote <sup>2</sup>		relevant rope parts see footnote <sup>3/4</sup>	
			over a length of		over a length of	
			6 x d <sup>5</sup>	30 x d <sup>5</sup>	6 x d <sup>5</sup>	30 x d <sup>5</sup>
vero 4	144	22	2	4	4	8
verotop XP	96	23-1	2	4	4	8
verotop verotop S verotop E	112	23-2	3	5	5	10
verotop P	126	23-3	3	5	6	11

## Non-rotation resistant ropes

verope high performance wire rope construction	Nominal rope diameter d (mm)	Number of load-bearing wires in the outer strands	Rope category number RCN acc. ISO 4309	Number of visible broken wires acc. ISO 4309 <sup>1</sup>					
				relevant rope parts see footnote <sup>2</sup>			relevant rope parts see footnote <sup>3/4</sup>		
				Class M1 to M4 or class unknown <sup>6</sup>			All classes M1 to M8		
				Ordinary lay		Lang lay		Ordinary and Lang lay	
				over a length of			over a length of		
				6 x d <sup>5</sup>	30 x d <sup>5</sup>	6 x d <sup>5</sup>	30 x d <sup>5</sup>	6 x d <sup>5</sup>	30 x d <sup>5</sup>
verostar 8 veropro 8 veropro 8 RS verosteel 8	till 42	208	09	9	18	4	9	18	36
	43 to 48	248	11	10	21	5	10	20	42
	above 48	288	13	12	24	6	12	24	48
veropower 8	till 40	208	09	9	18	4	9	18	36
	41 bis 46	248	11	10	21	5	10	20	42
	above 46	288	13	12	24	6	12	24	48
verotech 10 veropro 10	all diameters	260	11	10	21	5	10	20	42

### Note

- 1) Please note that a counted broken wire always has two ends.
  - 2) Shall be applied exclusively to those sections of rope running only over steel sheaves and/or spooling on a single-layer drum. The wire breaks are randomly distributed.
  - 3) Shall be applied exclusively to those sections of rope spooling on a multi-layer drum.
  - 4) The values are valid only in conjunction with footnote 3 and apply to deterioration that occurs at the cross-over zones and interference between wraps due to fleet angle effects.
- Note: These values do not apply to those sections of rope running only over sheaves but do not spool on the multi-layer drum!
- 5) d = nominal rope diameter
  - 6) Twice the number of broken wires listed may be applied to ropes on mechanisms whose classification is known to be M5 to M8.