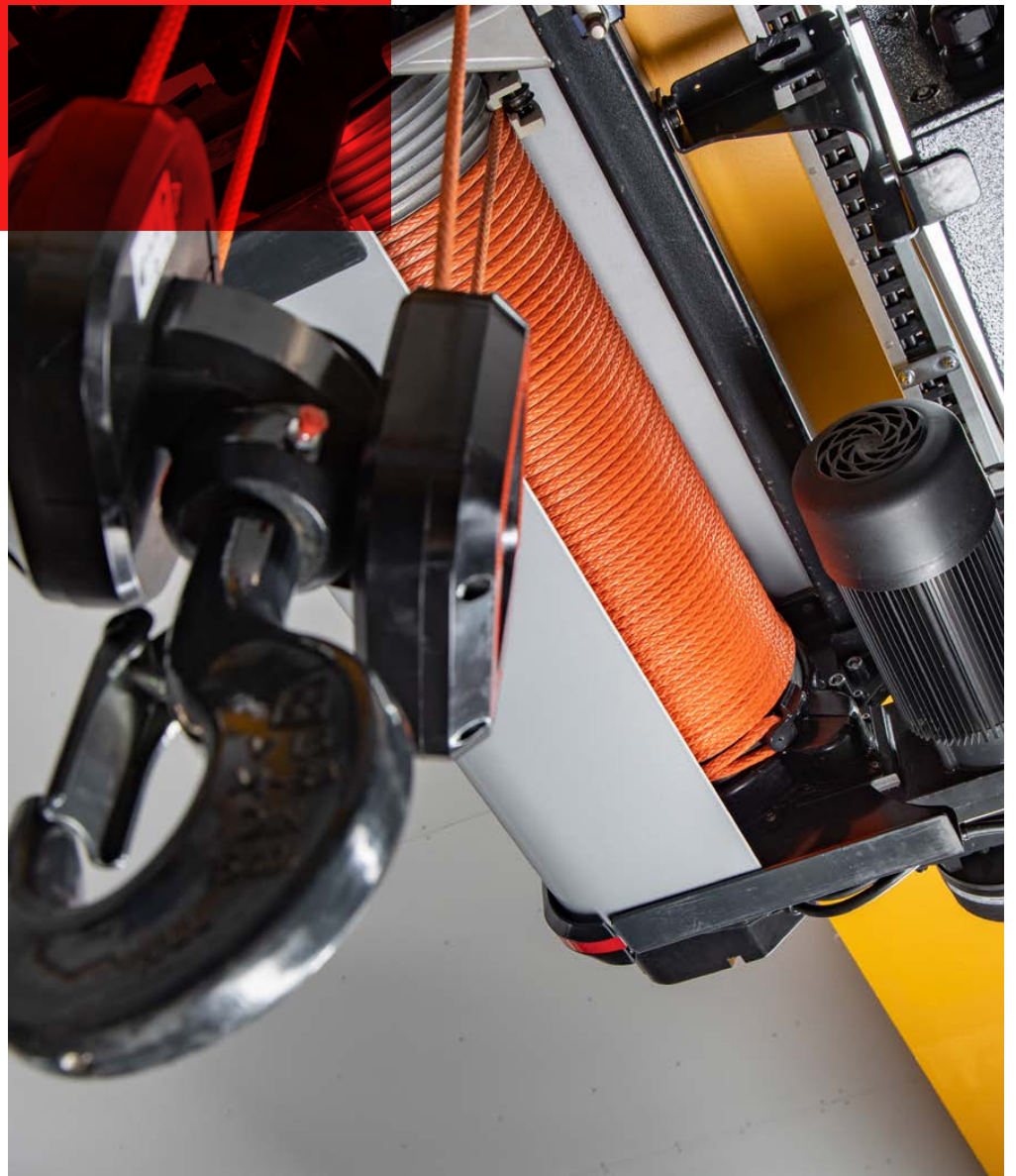


S-SERIES

# Synthetic rope comparison to steel wire rope



	Feature	Synthetic rope	Steel wire rope
<b>Environment</b>	Low temperature	-40 C (-40 F)	-20 C (-4 F)
	High temperature	+40 C (+104 F)	+55 C (+131 F)
	UV resistance	Medium resistance	High resistance
	Humidity	Maximum resistance	Good resistance
	Clean assembly/maintenance environments	Cleaner	Lubricated steel wire prone to attracting dirt
	Dust / abrasion	Resistant to abrasion	Lubricated steel wire prone to attracting dust and accelerating abrasion
	Electrical conductivity	Rope non-conductive (in dry environments)	Electrically conductive due to steel material
	Corrosive	Acid/alkyd resistant	Highly corrosive to acid/alkyd
	Rust	Rust proof	Subject to rust
<b>Physical properties</b>	Material	High performance synthetic	High strength steel
	Breaking strength	Very high (consistently exceeds 5:1)	High (meets or exceeds 5:1)
	Construction	Braided	Strand construction
	Rope variations	One variation	Multiple variations (Left lay / right lay etc.)
	Shape retention	Retains and/or returns to original shape	Does not retain original shape
	Friction	Low coefficient of friction increases rope life	High coefficient of friction reduces rope life
	Rotation resistant	Yes. Rotation resistant rope	No (yes, requires a special rope)
	Visibility	High visibility red color	Low visibility, gray color
	Weight	Light – 80% lighter than steel	Heavy
	Kink Resistance	Will not kink	Will kink and requires replacement
<b>Durability</b>	Resistance to bending	Returns to original shape with no permanent damage	Will bend and deform, requires replacement
	Bird cage resistance	Returns to original shape with no permanent damage	Will bird cage and deform, requires replacement
<b>Service</b>	Lifetime of rope	Better than steel	Good
	Lifetime of sheaves	Better than steel	Good
	Lifetime of drum	Better than steel	Good
	External inspection	Easy visual	Moderate, requires more thorough inspection
<b>Handling</b>	Discard criteria	Wear – easy visual inspection	Amount of wire breaks, deformation
	Lubrication	Not required	Regular lubrication required
	Core inspection	No core, easy inspection	Difficult, requires special tools and complex inspection
	Time to replace rope	Short – lighter and flexible, easy to handle	Longer – heavier and rigid
<b>Sustainability</b>	Safety	Synthetic rope does not barb and reduces cuts to hands, less ergonomic injuries due to lighter weight and flexibility	Hand injuries due to steel wire fraying, ergonomic injuries due to handling more weight and rigid material
	Cleanliness	Clean, smooth	Grease, dirt, rough
	Installation at heights	Easy – 80% lighter than steel rope	Heavy and harder to install
	On-site rope change effort	Easier due to lighter and more flexible material	Heavier and rigid
<b>Sustainability</b>	Toxicity	Non-toxic	Petroleum based lubricant
	Recyclable	Not recyclable at the moment	Yes

The data is based on the use of a hoist/crane in a normal and recommended manner, under standard conditions. This is not a warranty.