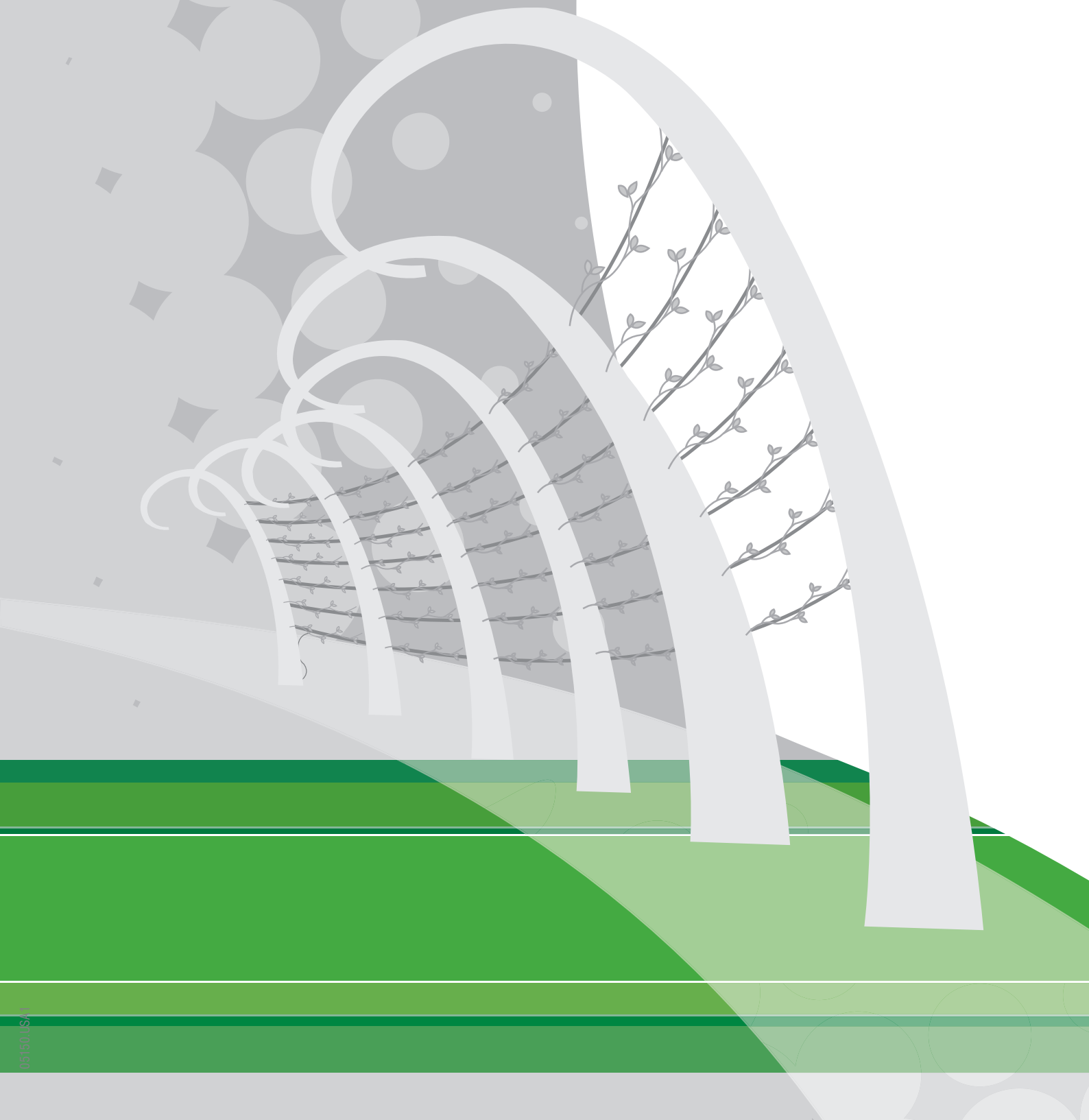
RONSTAN

greening systems



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greening systems

Cables have long been used to support climbing plants. Faced with the challenge of increased urban density, where footprints for garden beds often come second to areas for active recreational activities, recent cable innovations combine with intelligent thinking to present new opportunities for vertical landscapes in the tightest building envelope.

Whether a simple application of individual cables providing essential structure for plants to cover a domestic courtyard wall, or a complete integrated cable net to support plants over a multi-level facade, cables help extend the many benefits of plant life through vertical gardens. Reduced thermal gain through shading and the flow on effects this additional layer of insulation provides like reduced building running costs, noise reduction and improved air quality are very real outcomes. And the simple pleasure "of being close" to plants brings well-being often associated with tangible health and social benefits.

The Ronstan range of cable systems detailed in this catalogue has been developed with one function in mind - to present simple cable systems that provide the necessary structure for vertical climbing plants. As pioneers in cables for greening we have detailed our most popular cable systems, which when combined with the correct selection of plant and used in the right aspect and site orientation can be applied as modules to suit any wall or facade. To make the process even easier each system can be specified under a single AGS part number and has a specification block that can be copied to ensure the specification is clear and easily understood by specifier, builder and landscaper alike.

If you have never designed with tensile cables before it need not be a mystery. Ronstan has staff ready to assist clients with concept development, system selection, specification and estimating, or to tailor a solution to your needs. Our project management team can be called upon to ensure the proper coordination of green cable and facade projects from concept to installation and commissioning.

Types of Climbing Plants

The design of your trellis system including all dimensions, cable diameters, types of fittings, distances from the wall and cable spacing, must consider the climbing behaviour of the plant species in addition to the aesthetics and desired project outcome:-

a) Self Clinging Plants

- Require no auxiliary means of support.
- Can cause damage to the grout in masonry walls.
- Examples - Ivy, Fig, Virginia Creeper.

b) Vines

- Vines are climbing plants which wrap their stems around the support structure.
- They can sometimes put a great deal of load on to the mating structure.
- Examples - Wisteria, Honeysuckle, Chinese Star Jasmine.

c) Tendril Climbers

- Tendril Climbers develop special off shoots that grab hold of the supporting structure.
- They generally apply lesser loads onto the support structure; however, they may not be suitable in high wind situations.
- Examples - Grape Vine, Passionfruit, Clematis.

d) Scrambling Plants

- Scrambling plants only use the trellis systems to prop themselves.
- Upward growth is supported by their prickles and thorns.
- Examples - Bougainvillea, Raspberry, Hardenbergia.

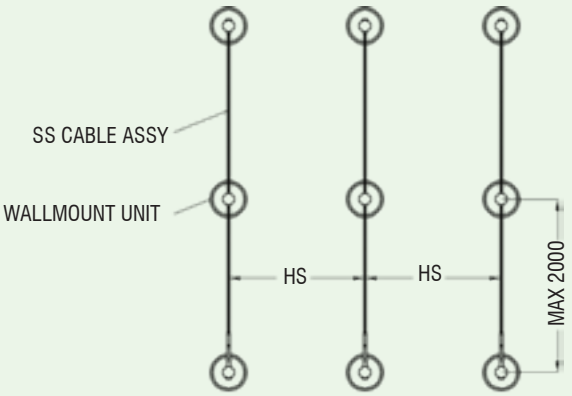
Ronstan AGS greening cable systems are suitable for use with vines, tendril climbers and scrambling plants. Considerations for the selection of the specific species of climbing plant are varied and numerous. There is no short-cut for careful planning and consultation with a horticulturist is advised to ensure the correct selection is made.

As a general rule plants should be selected from species native to the local area – i.e. make a close inspection of the area surrounding the project site and select a species of climbing plant that flourishes in the immediate project vicinity. Other considerations include plant weight/loads, site conditions like exposure to wind, the proximity of other buildings, distance from wall, aspect, soil conditions and reticulation.

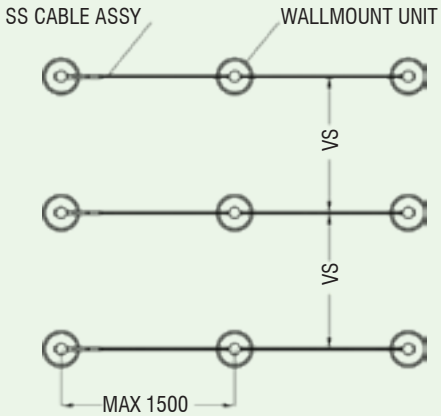
AGS1 | **AGS2**

AGS1

Simple and straight is the theme with our Single Cable Trellis systems. Cables can be oriented in a vertical or horizontal arrangement and spaced to suit overall look and/or plant type selected. Single Cable Trellis systems are a great way to draw vines 'up' a space while scrambling plants love to sprawl sideways along horizontal style trellises. Stylish cable fittings and well resolved off stands make the AGS1 the perfect solution for applying a straight line cable trellis to any new or existing wall.



AGS1V - Single Cable - Vertical



AGS1H - Single Cable - Horizontal

AGS1V - Vertical Single Cable Trellis

System No	Orientation	VS	S	Suitable for plant type
AGS1V-200	Vertical	200	80	Slow Growing Vines
AGS1V-400	Vertical	400	80	Slow Growing Vines
AGS1V-600	Vertical	600	120	Vigorous Vines
AGS1V-800	Vertical	800	160	Vigorous Vines
AGS1V-CUST	Vertical	Custom	Custom	

AGS1H - Horizontal Single Cable Trellis

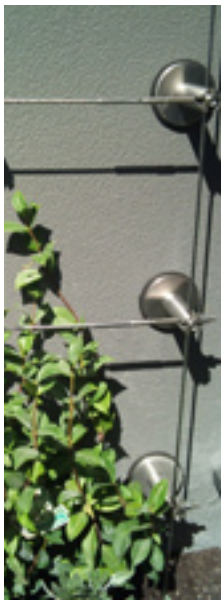
System No	Orientation	HS	S	Suitable for plant type
AGS1H-200	Horizontal	200	80	Slow Growing Scramblers
AGS1H-400	Horizontal	400	80	Slow Growing Scramblers
AGS1H-600	Horizontal	600	120	Vigorous Scramblers
AGS1H-CUST	Horizontal	Custom	Custom	

*S= Distance off wall.

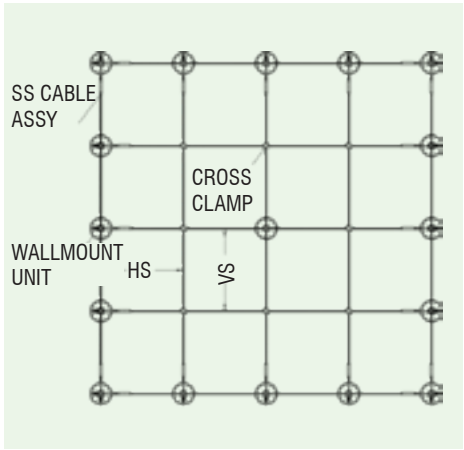
HOW TO SPECIFY - ***Complete the required system number & insert this text into your specification document***
Ronstan AGS1x-xxx Single Cable Trellis system. Consists of ABS1-19M04 4mm dia cables with 7x7 construction. Affixes to stainless steel offstands TYP 80, 120 or 160mm long depending on System No selected. Cable spacing to 200, 400, 600 or 800mm depending on System No selected. Max spacing for intermediate offstands (along cable) is 1500mm. Offstands use M8 threaded fixing 100mm long, typically chemset to wall. Refer to www.ronstanrigging.com/arch_us/component_overview.asp for alternate fixings to suit non-concrete wall types. Contact Ronstan East Coast Sales on +1 401 924 2010 or West Coast Sales on +1 510 590 8127 for pricing, installation and further details.

OTHER COMMENTS/CONSIDERATIONS
For large spans or plant loads a heavy duty end stand is required. Horizontal systems can sag under plant weight and consideration should always be given to how accessible and climbable your installation is. End stands can be replaced by posts/frames/support as required. Climber studs can be added as an option to help assist with plant climbing.

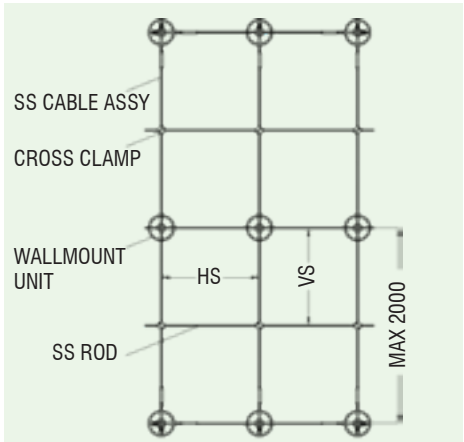
AGS2



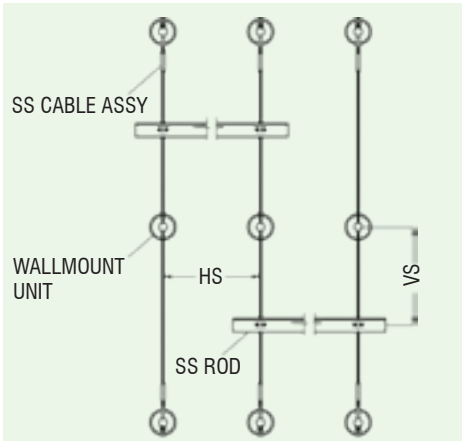
Applying a Grid Style Trellis to your space enables you to train plants upward and sideways to help create a fully filled expanse of greening. The AGS2 system uses vertical support cables throughout with the option of horizontals made from either cable, rod or other profiles such as angle or tube. Horizontal and vertical elements are clamped together at each intersection to create a stable system. Intermediate off stands are required to help minimise deflection and keep perimeter loads low. Tendril climbers love to spread around the grid style trellis and the spacing of grids can be nominated to suit your slow or fast growing climbers.



AGS2C - Horizontal Cable



AGS2R - Horizontal Rod



AGS2A - Horizontal Angle

AGS2C - Cable-Cable Grid

System No	HS	VS	S	Plant type
AGS2C-150	150	250	80	Slow Growing Vines Tendril Climbers
AGS2C-300	300	500	120	Fast Growing Vines Tendril Climbers
AGS2C-CUST	Custom	Custom	Custom	

AGS2R - Cable-Rod Grid

System No	HS	VS	S	Plant type
AGS2R-150	150	250	80	Slow Growing Vines Tendril Climbers
AGS2R-300	300	500	120	Fast Growing Vines Tendril Climbers
AGS2R-CUST	Custom	Custom	Custom	

AGS2A - Cable-Angle Grid

System No	HS	VS	S	Plant type
AGS2A-150	150	250	80	Slow Growing Vines Tendril Climbers
AGS2A-300	300	500	120	Fast Growing Vines Tendril Climbers
AGS2A-CUST	Custom	Custom	Custom	

*S= Distance off wall.

HOW TO SPECIFY - ***Complete the required system number & insert this text into your specification document***

Ronstan AGS2x-xxx Grid Style Trellis system. Consists of vertical ACS3-SSM04 4mm dia cables with 7x7 construction. Horizontal members of 4mm dia cables (ACS3-SSM04), SS rod (RF1525-2.5) or SS equal angle as defined by System No. Affixes to stainless steel offstands TYP 80 or 120mm long depending on System No selected. Cable and horizontal member spacing to dimensions as defined by System No selected and intersections connected using UV resistant plastic . Max spacing for intermediate offstands (along cable) is 2000mm. Offstands use M8 threaded fixing 100mm long, typically chemset to wall. Refer www.ronstanrigging.com/arch_us/component_overview.asp for alternate fixings to suit non-concrete wall types. Contact Ronstan East Coast Sales on +1 401 924 2010 or West Coast Sales on +1 510 590 8127 for pricing, installation and further details.

OTHER COMMENTS/CONSIDERATIONS

For large spans or plant loads, heavy duty stands are required. Horizontal systems can sag under plant weight and consideration should always be given to how accessible and climbable your installation is. End stands can be replaced by posts/frames/support as required. I920-0400 grey plastic cross clamps are included as standard.

ENGINEERING LOADS

The differing growth characteristics of plant species will impose different loads onto the cables – direct plant loads and wind loads. These loads will be transferred through the system connections to the building face. The ability of the mating building structure to withstand these loads must be considered along with any relevant factors of safety or load requirements of the materials used in the mating structure itself. Safety implications, service life, fatigue (as may be caused by wind stresses or repetitive cyclical loading), type of load, exposure to ultraviolet light, corrosion and stress corrosion (such as in high humidity or chlorine environments) must be considered. A 'safe working load' is not specified as this is dependent on the factor of safety, which must be determined by the user relative to each application.

SYSTEM SELECTION AND GROWTH

Considerations for the selection of the specific species of climbing plant are varied and numerous. There is no short-cut for careful planning and consultation with a horticulturist is advised to ensure the correct match of system and species is made for satisfactory growth. Plant weight/loads, site conditions like exposure to wind, the proximity of other buildings, aspect, soil conditions and reticulation all need careful consideration.

PRODUCT INFORMATION AMENDMENTS

All catalogue information is subject to specification changes during a product's life-cycle. Any alterations will be posted on the Website: www.ronstantensilearch.com which should be considered the most up to date source of product information.

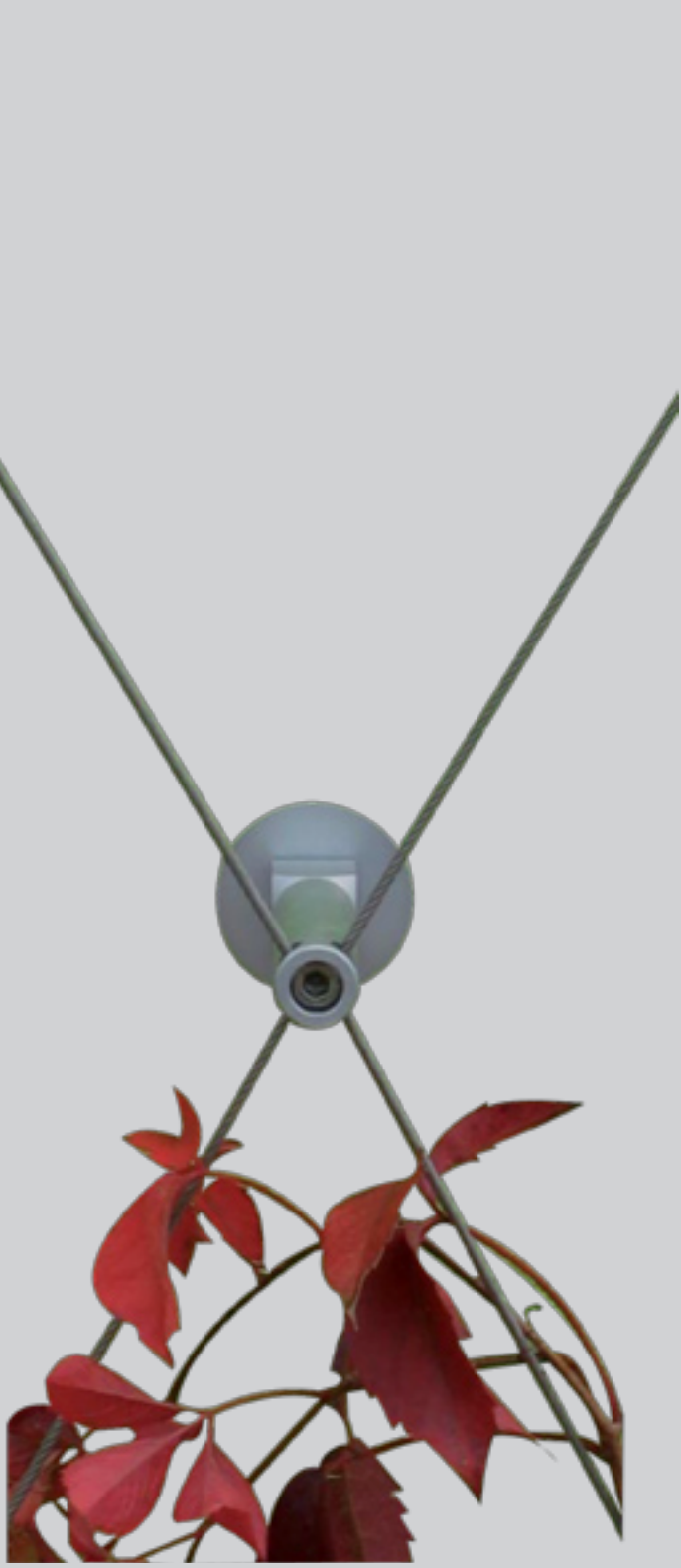
USEFUL LIFE

No guarantee can be provided for product life, load capacity or any other factor due to the variability in usage. While every precaution is taken in the product design and manufacturing processes to minimize the effects of corrosion and stress corrosion, there are also preventative and corrective treatments that can be carried out after installation. Contact your local Ronstan representative for further assistance and advice.

WARRANTY

In addition to your rights implied by law, the goods manufactured or sold are warranted to be free of defects in materials or workmanship for three (3) years from the date of purchase by the original purchaser except that:

- This warranty shall not apply to any product which has been improperly fitted, improperly maintained, or used in any application for which it was not intended.
- This warranty shall not apply to normal wear which can reasonably be expected in normal use of the product.
- No warranties are made that any products are fit for a particular purpose.
- The liability shall be limited to the repair or replacement, at the manufacturer's discretion, of the defective goods.
- The useful life of any rigging product is determined by the above factors and must be assessed in each application, and thus no guarantee can be provided for product life, load capacity or any other factor due to the variability in usage.



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