

Mammoth Galvanised Steel Crossarms



Background

Mammoth Group Limited (formerly Solar Outdoor Lighting Limited) has been providing transport, contracting and material supply services to the New Zealand Power and Telecommunications Sector for over 20 years.

Mammoth is the logistics and transport provider of choice for Busck Power Poles in the North Island. We have recently developed a range of Galvanized Steel Crossarms with specifications that cater for a wide range of applications.

Specifications of Mammoth Galvanized Steel Crossarms and Braces

- Steel Grade 350 or equivalent
- Galvanisation to minimum of 600g/m²

These high-quality galvanized steel crossarms and braces are manufactured with pre-drilled hole patterns to very precise specifications which have been supplied to us by existing line company customers. Alternative hole patterns can be manufactured from plans if these are provided to us. Estimated useful life of the Galvanized Steel Crossarms is 80 years plus.

Galvanized Steel Crossarms are available in a range of standard sizes:

- 2 meter - in both 100 x 75mm & 100 x 100mm box section profiles
- 2.6 meter 100 x 100mm
- 3 meter 100 x 100mm
- 3 meter 150 x 150mm
- 4 meter 100 x 100mm

Galvanised Steel Saw Tooth Arm Braces are available in a range of sizes:

- 770 x 40 x 5mm
- 950 x 40 x 5mm
- 1070 x 60 x 10mm

Detailed plans and specifications of the Galvanized Steel Crossarms and Saw Tooth Arm Braces are enclosed.

Comparability to Wooden Crossarms

Crossarms are one of the most important components in powerline transmission infrastructure. Although traditionally constructed of wood, like other biodegradable materials wooden crossarms are susceptible to natural deterioration.

With the limited supply of tropical hardwoods, the change to steel crossarms is worthy of serious consideration. Also, lesser quality hardwood crossarms are experiencing shorter economic life.

Replacement of Wooden Crossarms

During the refurbishment process of some distribution structures, many of the wood components are now being replaced.

Wood is a variable natural element whose structural properties change over time from weather exposure. Many of the wooden crossarms in used in NZ are 30 to 50 years old and are in varying stages of degradation.

The costs of cross arm failure in monetary terms and customer ire are both high. A reliable means of reducing this risk is timely and necessary – particularly in light of the ages of these structures and the increased demands being imposed by regulators and customers for improved reliability.

Wooden Crossarms must be inspected regularly whereas Steel Cross arms are much more durable and this will reduce the inspection needs and save time in the longer term.

While FRP (fibreglass composite) constructed Crossarms have become available their useful life is still unproven and extra care needs to be taken when tightening bolts as FRP cross arms as these can fracture. FRP Crossarms cost about twice as much as galvanised steel crossarms.

Costs of Mammoth Galvanised Steel Crossarms:

Refer schedule attached.

Cost comparison Galvanised Steel Verses Wood

This comparison is based on a standard 2 meter x 100 x 100mm crossarm at discounted price of \$80 +GST for over 500 unit ordered at one time.

Galvanised Steel Crossarms (pre-drilled) cost \$80 +GST each

Wooden Crossarms (undrilled) cost \$60 +GST each

Estimated functional life of galvanised steel = 80 years = \$1.00 cost per year

Using a range of functional years for wooden cross arms costs are:

30 years = \$2.00 cost per year

20 years = \$3.00 cost per year

10 years = \$6.00 cost per year

Therefore, based on even the most optimistic functional life of 30 years, wooden crossarms cost twice as much as Mammoth Galvanised Steel Crossarms. (Note: and the additional cost of drilling wooden crossarms is also a factor!)

Notes:

1. Galvanised Steel Cross arms are supplied predrilled for insulators, arm braces and light fittings. Wooden cross arms will need to be drilled.
2. Steel crossarms are designed and manufactured to meet strict design criteria. This means that they will handle load requirements in normal as well as extreme locations. They will withstand high wind as well as snow and seismic forces where wood will often fail. Steel will not warp, split, twist, shrink or decay like wood and will remain rigid with structural integrity for life.

Free Samples

We can deliver to you free samples of the 2 meter 100 x 100 Galvanized Steel Crossarm for your inspection and testing upon request.

Contact

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