

FRAMECAD® 500

Introduction

Cold Formed Steel construction is an advanced and precise system using the latest technology. As with all advanced technology the use of materials with the correct specifications is essential to ensure the total system will function efficiently and as designed.

Using materials proven to comply to specification not only protects your equipment and the precision of the system, it determines the integrity of the dwelling or commercial structure to be built.

Materials and components with proven quality levels will give the engineer, specifier and final customer confidence in the long term integrity of their project.

General Description

FRAMECAD® 500 is a hot dipped galvanised structural grade steel developed specifically to maximise the efficiency of cold formed steel construction projects.

FRAMECAD® 500 is the result of research and development efforts between FRAMECAD® and select FRAMECAD® Partner Mills.

FRAMECAD® 500 has a guaranteed minimum yield of 500MPa to maximise yield and lower build costs.

Most importantly FRAMECAD® 500 is supplied with full compliance certificates to assure specifiers the materials are compliant to International Standards.

Application

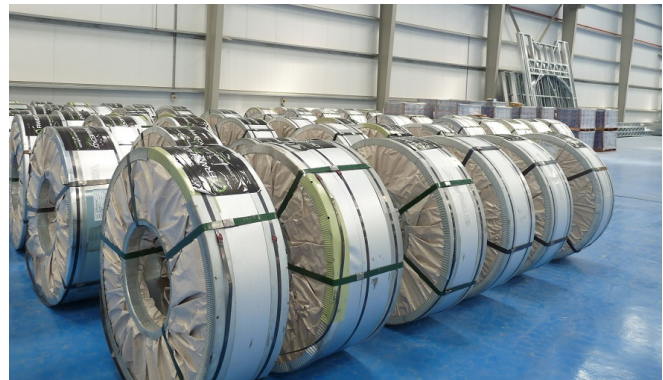
FRAMECAD® 500 is the ideal steel specification for all structural steel framing applications and is a suitable substitute in any projects where FRAMECAD® 350 or FRAMECAD® 550 had previously been used.

FRAMECAD® 500 will ensure compliance to all major Building Code and Standard requirements and build conditions due to its ideal combination of high tensile strength and excellent elongation and ductility.

Coating

FRAMECAD® 500 is hot-dip galvanised to a weight of 275gm/m² (Z275) which is ideal for use in permanent structures. Z275 coatings are not recommended for exposed applications - please discuss any specialised requirements with your FRAMECAD® representative.

FRAMECAD® 500 is supplied with a regular spangle as standard.



International Standards

The following International Standards correspond in full or in part to the manufacturing and processing of material dimensions listed in this document:

ISO 3575:2005 *Continuous hot-dip zinc-coated carbon steel sheet of commercial and drawing qualities.*

ISO 4998:2005 *Continuous hot-dip zinc-coated carbon steel sheet of structural quality*

ISO 1460 *Metallic coatings - Hot dip galvanised coatings on ferrous materials - Gravimetric determination of the mass per unit area.*

Typical Dimensional Combinations

Thickness (BMT)	Typical Slit Widths
0.55mm	156mm, 182mm,
0.75mm	156mm, 182mm, 242mm
0.95mm	156mm, 182mm, 242mm
1.15mm	156mm, 182mm, 242mm

Typical slit coil weights range from 800 - 1300kg

Typical pack weights range from 3500 - 5000kg

Please discuss any specific weight limitations or pack combinations with your FRAMECAD® representative.

These steel dimensions are a reflection of the most commonly supplied dimensional combinations typically used in cold formed steel profile manufacture. Supply conditions may be subject to material availability and dimensional restrictions. Other dimensional combinations are available on enquiry.



FRAMECAD® 500

Typical Property Range (Normal Supply Product)

Thickness (mm)	Typical Yield Strength and Tensile Strength Range (MPa)																			
	500	510	520	530	540	550	560	570	580	590	600	610	620	630	640	650	660	670	680	690
0.75	Yield										Tensile									
0.95	Yield										Tensile									
1.15	Yield										Tensile									

Typical Mechanical Properties are based on standard product dispatched to customers. Note that ductility will decline through a natural aging process during storage and during normal roll forming processes.

Typical Mechanical Properties

Mechanical Properties Requirement (Base Metal)	
Mechanical Property	Expected Result
Yield Strength	500 MPa (min.)
Tensile Strength	540 MPa (min.)
Elongation - % L ₀ - 50mm	10% (min.)
Ductility Ratio (Tensile : Yield)	1.08 (min.)
180° Transverse Bend	3t
Coating Mass	275 g/m ² (G90)
Coating Type	Hot Dip Galvanised

In determining the base metal mechanical properties, base metal thickness should be measured after stripping the coating from the end of the specimen contacting the grips of tension testing machine.

Chemical Composition

Chemical Property	Guaranteed Max.
Carbon - C	0.30% max.
Phosphorus - P	0.20% max.
Manganese - Mn	2.50% max.
Sulphur - S	0.05% max.

Storage

Material should be stored under cover and protected from exposure to moisture and weather.

Material should be used promptly (within 6 months) to avoid the possibility of storage related corrosion.

Important Notes

Typical mechanical properties are based on typical product dispatched to customers. Note that ductility will decline through a natural aging process during storage.

For product outside of the standard product range please contact your local sales office.

The material in this document is provided for general information purposes only. Although all reasonable efforts have been made to ensure that the information is current and accurate as at the date of issue, the information provided is selective and may not be complete or suitable for your intended use or jurisdiction. No information in this document constitutes, or shall be relied upon as constituting, the giving of advice of any nature. Nor is any such information to be used as a substitute for specific advice from appropriate independent professional advisors in your jurisdiction regarding your particular facts and circumstances or as a substitute for compliance with the requirements of applicable regulatory authorities or laws. You should not act (or refrain from acting) based upon information provided by FRAMECAD® without independently verifying the original source information and, making your own independent assessment, with the assistance of appropriate independent professional advisors, regarding your particular facts and circumstances. FRAMECAD® makes no representation or warranty, express or implied, as to the accuracy, completeness or suitability for purpose, of any information in this document. To the extent permitted by law, FRAMECAD® accepts no responsibility to the recipient or any other person for any loss, damage, cost or expense (whether direct or indirect) incurred and arising out of or in connection with any use or reliance by any of them on the information in this document including, but not limited to, as a result of any error, omission or misrepresentation in any information or statement in this document. This limitation of liability includes but is not limited to incidental, special or consequential damages, damages for loss of business or other profits. Liability which cannot legally be excluded is limited to the maximum extent possible.

We have offices here:

Auckland, New Zealand (Head Office) | Dubai, UAE | Dallas, USA | Hong Kong | Melbourne, Australia | Johannesburg, South Africa

