



# SENSE 600<sup>®</sup>

## Product Guide for Designers



## InfraBuild's new reinforcing range –

- ↳ reduced mass
- ↳ reduced embodied carbon
- ↳ same structural performance

Deformed reinforcing bar is used in a range of residential, commercial and infrastructure applications.

### SENSE 600® PRODUCT RANGE – REINFORCING BAR

SENSE 600®			Equivalent 500N		
Designation	Diameter <sup>1</sup> (mm)	Nominal kg/m	Designation	Diameter <sup>1</sup> (mm)	Nominal kg/m
S11	11.0	0.740	N12	12	0.888
S15	14.6	1.32	N16	16	1.58
S18	18.3	2.06	N20	20	2.47
S22	21.9	2.96	N24	24	3.55
S26	25.6	4.03	N28	28	4.83
S29	29.2	5.26	N32	32	6.31
S33	32.9	6.66	N36	36	7.99
S37	36.5	8.22	N40	40	9.86

**SENSE 600®** is available in a range of bar diameters



**We make it easy to identify**

# **SENSE 600® is a new range of reinforcing steel with improved sustainability credentials**

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**SENSE 600®** gives you up to a 39% reduction in embodied carbon steel solution when you use it in place of our equivalent load capacity 500 MPa product.

The reimagined bar pattern maintains the bar development length and allows the redistribution of material to provide a larger core area for improved buckling performance and tensile capacity all whilst using up to 16.7% less raw material.

We've made it easy, SENSE 600® is CodeMark certified, giving you the assurance that it conforms to AS/NZS 4671: 2019 and compliant for designs to AS 3600: 2018.

Certified sustainability credentials, easy to design, easy to process, easy to handle - it just makes SENSE.



**Innovative bar design combined with higher strength**

✓ Supported by CodeMark certification



**Up to 16.7% less raw material\***

✓ Easier to handle



**Lower embodied carbon construction solution\***

✓ Up to 39% reduction in embodied carbon vs standard Grade 500

*\*Than our standard Grade 500N reinforcing bar*

## SENSE 600<sup>®</sup> offers a high degree of material circularity:

SENSE 600<sup>®</sup> is manufactured in Australia by InfraBuild from scrap steel. It has both a high recycled content and a high degree of material circularity, as it is readily recyclable at its end-of-use phase, into new steel products.

The Material Circularity Indicator metric for SENSE 600<sup>®</sup> is included in the SENSE 600<sup>®</sup> EPD.

## SENSE 600<sup>®</sup> meets your compliance needs:



- ↳ Compliant for designs to AS 3600: 2018
- ↳ Manufactured to AS/NZS 4671: 2019
- ↳ JAS-ANZ third party accredited
- ↳ Compliant with National Construction Code (NCC) when designed to Australian Standards.
- ↳ GECA Certified, in line with our sustainability focus and credentials

SENSE 600<sup>®</sup> is CodeMark certified for specific applications for ease of substitution.

## SENSE 600<sup>®</sup> no change to your weld procedures:

SENSE 600<sup>®</sup> has been developed to conform with the welding requirements of AS/NZS 1554.3. Prequalified Weld Procedure Specifications (WPS) developed for grade 500 reinforcing can be used for the qualification of SENSE 600<sup>®</sup> reinforcing welds.

Preheat and post heat not required for diameters ≤ 40mm. For further information please refer AS/NZS 1554.3, Weld Australia Technical Note 1. Group Number 4 and SENSE 600<sup>®</sup> – Weld Guidelines.

# Chemical Composition (Cast Analysis)

%

C	P	Mn	Si	S	CE
0.33*	0.050*	-	-	0.05*	0.49*

\* denotes maximum

$$CE = C + \frac{Mn}{6} + \frac{Cr}{5} + \frac{Mo + V}{5} + \frac{Ni + Cu}{15}$$

High strength steel and innovative bar design

- easy to design
- easy to process
- easy to handle
- it just makes **SENSE**

## Characteristics

### Mechanical Properties

Yield (MPa)	UTS/YS Ratio minimum	Uniform Elongation (%) Minimum
600	1.08	5 * Class N

### Cold Bending Properties

Nominal Diameter (mm)	Mandral Diameter	Bend Angle	Rebend Angle
$d \leq 16$	4d	90°	90°
$d \geq 16$	4d	180°	NA

## Design Data

 **Bar areas**

 **Coils**

- S11
- S15

 **Stock lengths**  
(12m and 15m)

- S18 • S22 • S26
- S29 • S33 • S37

No. of bars	AREA OF STEEL (mm <sup>2</sup> )							
	S11	S15	S18	S22	S26	S29	S33	S37
1	94.2	168	262	377	513	670	848	1050
2	188	335	524	754	1030	1340	1700	2090
3	283	503	785	1130	1540	2010	2540	3140
4	377	670	1050	1510	2050	2680	3390	4190
5	471	838	1310	1880	2570	3350	4240	5240
6	565	1010	1570	2260	3080	4020	5090	6280
7	660	1170	1830	2640	3590	4690	5940	7330
8	754	1340	2090	3020	4110	5360	6790	8380
9	848	1510	2360	3390	4620	6030	7630	9420

Bar spacing (mm)	AREA OF STEEL (mm <sup>2</sup> /m)							
	S11	S15	S18	S22	S26	S29	S33	S37
100	942	1680	2620	3770	5130	6700	8480	10500
125	754	1340	2100	3020	4100	5360	6780	8400
150	628	1120	1750	2510	3420	4470	5650	7000
175	538	960	1500	2150	2930	3830	4850	6000
200	471	840	1310	1880	2560	3350	4240	5250
225	419	747	1160	1680	2280	2980	3770	4670
250	377	672	1050	1510	2050	2680	3390	4200
275	343	611	953	1370	1870	2440	3080	3820
300	314	560	873	1260	1710	2230	2830	3500



# It just makes SENSE

## Disclaimer:

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