

INTRODUCING FASTER, MORE EFFICIENT SLAB DESIGNS WITH BAMTEC-SLABS*

OneSteel Reinforcing has introduced **BAMTEC-SLABS**: a new optional add-on module to **INDUCTA Engineering's SLABS** software. **BAMTEC-SLABS** enables engineers to simply overcome design issues like crack control and deflection, and achieve faster, more structurally and cost-efficient designs.



NEW REINFORCEMENT SYSTEM ON A ROLL...

Now in use in Brisbane, Sydney, Melbourne and Adelaide, **BAMTEC** is a patented, steel reinforcing system utilising OneSteel Reinforcing's **500PLUS REBAR**, and is as easy to place as a roll of carpet.

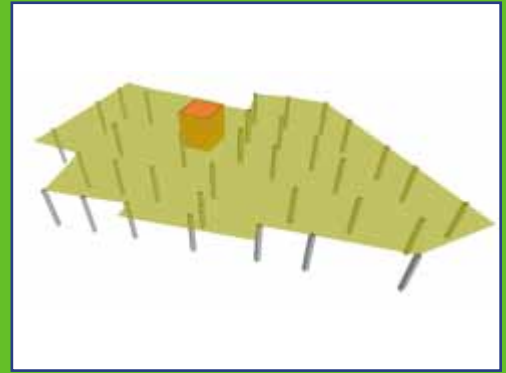
Manufactured by OneSteel Reinforcing, **BAMTEC** greatly improves the speed and quality of concrete slabs, providing benefits at all stages of construction.

BAMTEC involves prefabricating reinforcing steel "carpets" to virtually any shape or size. Individual **500PLUS REBAR** steel reinforcing bars are welded to flexible steel straps, which can connect up to hundreds of bars together. When a carpet has been completed, it is rolled up for handling and transport. When needed on site, the carpet is simply lifted into place and unrolled onto continuous bar chairs.

BAMTEC carpets can contain different diameters of bars and have bars at different spacings. Precise CAD detailing allows penetrations, awkward shapes and complex geometries to be integrated. Because the carpet is fabricated under factory conditions, **BAMTEC** can eliminate placement errors, ensuring quality is optimised, reducing the need for on-site inspections.

The carpets can more closely match engineering intent, as steel spacing and diameters can both be varied to maximise efficiency. Finite element modelling enables more efficient reinforced concrete designs, providing further savings.

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SLABS allows full 3D finite element modelling of the slab being designed, enabling the structure to be rotated through 360 degrees.



The finite element modelling clearly illustrates the required areas of reinforcing, enabling designers to use their experience in specifying the most appropriate reinforcement content.

170	462	665	1162	1047	2639	3624	4729	6000	7412
180	436	620	1117	1744	2511	3422	4467	5667	7000
190	413	595	1088	1653	2379	3242	4232	5368	6602
Spac:	10	12	16	20	24	28	32	36	40
200	393	568	1003	1570	2268	3060	4020	5100	6300
210	378	538	987	1494	2182	2933	3828	4887	6000
220	367	514	914	1427	2055	2800	3655	4626	5727
230	341	491	874	1365	1965	2670	3495	4425	5475
240	327	471	830	1300	1892	2567	3350	4250	5200
250	314	452	804	1256	1808	2464	3216	4090	5040
260	302	435	773	1200	1730	2369	3092	3923	4846
270	291	419	744	1153	1674	2281	2976	3778	4657
280	280	404	718	1121	1614	2200	2873	3643	4500
290	271	390	693	1083	1558	2124	2772	3517	4345
300	262	377	670	1047	1507	2053	2690	3400	4200
Spac:	10	12	16	20	24	28	32	36	40
REINFORCING BARS, mm ² , Grade 500 MPa									
No.	10	12	16	20	24	28	32	36	40
Last selected reinforcement: 577 mm ² /m.									

The integrated reinforcement specification table gives the reinforcing steel area for a wide range of rebar diameters and spacings, further simplifying specification.



Carpet geometry is created in CAD over the floor plans, and imported in **SLABS** and merged with the structural model.

BAMTEC-SLABS (Property of OneSteel Reinforcing Pty. Limited)

In combination with SLABS and a CAD package, the BAMTEC-SLABS Module offers a comprehensive design tool for the efficient design of BAMTEC reinforcing carpets.

A major advantage of BAMTEC carpets is their flexibility to adjust to the required reinforcement intensity as prescribed by the design engineer.

By using BAMTEC carpets, different bar spacings and smaller bar sizes, such as 10mm, can be implemented easily. Also, the steel intensity can be varied over different areas in the same slab. This results in a more efficient usage of the reinforcement, which can reduce the total mass of steel.

The usage of smaller bar sizes is especially significant when crack control criteria governs the design, as is often the case with AS3600-2001.

Adding further to the efficiency of the BAMTEC-SLABS Module, is the EXTRA-BARS option, which automatically schedules any additional loose rebars required to complete the design.

The carpet data can then be emailed to OneSteel Reinforcing, where it is downloaded to automated manufacturing facilities ensuring fast, accurate production.



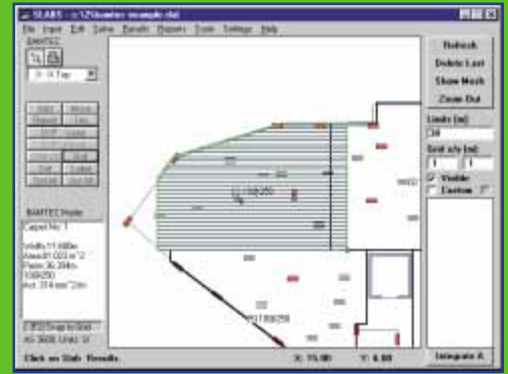
SLABS (Property of INDUCTA Engineering Pty. Limited)

SLABS greatly simplifies the analysis and design of reinforced concrete suspended slabs and raft slabs. The software utilises finite element modelling to calculate deflections for odd-shaped slabs with a variety of loads (strip, point and UDL) and support conditions (beams, columns and walls). Slabs panels may be joined together, so that a whole floor of a building can be analysed allowing for pattern loading and moment redistribution over supports. The program also produces contours of bending moments and required areas of steel to resist these moments.

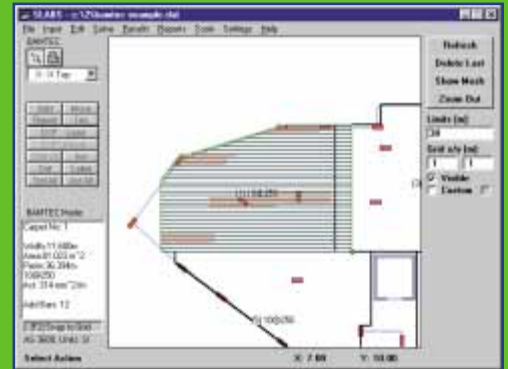
For further information or a free trial of SLABS and BAMTEC-SLABS, please contact INDUCTA Engineering or OneSteel Reinforcing.

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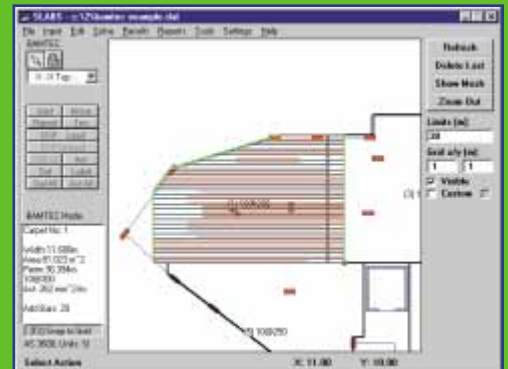
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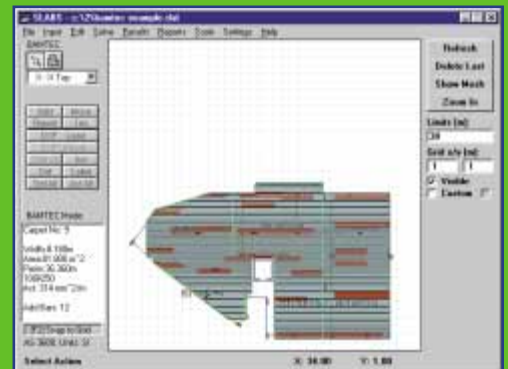
From the results presented by SLABS, for each carpet, the designer selects the most appropriate bar size and spacing, which forms the basic grid reinforcement.



Adding further functionality, the EXTRA-BARS option identifies where any additional loose rebars are needed to complete the design.



Engineers can quickly look at alternative rebar diameters and rebar spacings to ensure their design is the most structurally and cost-efficient available.



Once satisfied they are using the most efficient combination of rebar diameter and spacing, it is a quick task to complete the design for the slab area covered by the carpets.

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