

## Double Tee

## Product Data Sheet

### Description and Features

The Double Tee is a large component, prestressed precast concrete unit which, with the addition of an in situ topping, forms a structural suspended floor suitable for use in most types of building. Double Tees are ideally suited to car parks and supermarkets where large, column-free spaces are required. Half-width single tees can also be produced in special circumstances.

- The large unit size and large span capabilities of the Double Tee system result in very fast construction times.
- The large units require no temporary propping and once in place provide an immediate working platform.
- The large span capability can also considerably simplify the floor support system, and when used with the Stahlton Shell Beam gives further economies and time savings.
- The Stahlton Double Tee has parallel sided 90 mm, 120 mm or 200 mm wide webs depending on fire rating requirements and manufacturer.



*Single tees for this large reservoir roof*



*Rapid placement for large areas*

### Product Data

**Application:** Suitable for structural suspended floors in most buildings especially in larger commercial buildings, car parks etc.

**Manufacture:** Stahlton Double Tees are manufactured to length in adjustable steel moulds which give a smooth finish to the underside.

**End Support:** The units are commonly web supported.

As an alternative to web support, Stahlton designers have developed a system of flange support where, with additional end reinforcement and notched webs, the top flange supports the unit thereby eliminating the need for end formwork. This system is ideal for use in conjunction with the Stahlton Shell Beam.

**Camber:** All Double Tee units have a natural precamber. This may result in an increased topping thickness near the supports. Units designed near the limits of their load span capabilities have higher cambers.

**Fire Resistance:** Stahlton Double Tee floor systems with 90 mm webs and 50 mm concrete topping provide a 30 minute or 60 minute fire rating. Fire ratings up to 1 hour are available by using 120 mm wide webs. Fire ratings can be increased to 60 minute or 90 minute using 120 mm web tees.

**Acoustics:** Stahlton Double Tee floor systems provide an STC rating of 55 when used with a minimum of 80 mm of concrete topping. Ceilings will reduce the topping thickness required.

### Further Information

Designers should contact Stahlton technical staff early in the design process to ensure the most effective use of, not only the prestressed units, but also the associated structural and architectural detailing. Preliminary design advice, cost estimates and specifications are available on a no obligation basis.

### Designers Note

Due to manufacturing and transport arrangements the full Stahlton product range is not available in all regions.

## Double Tee Load Span Table

### 2.4 m wide Auckland Tees with 65 mm to topping

Unit Size (mm)	Max. Recommended Span	Floor Self Weight (kPa)	Clear spans in metres. Maximum superimposed (unfactored) loads in kPa. Based on 65 topping.													
			5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m
200	6.2	3.5	13.0	8.2	5.0	3.0										
250	7.8	3.7		13.0	8.0	6.5	4.6									
300	9.3	3.9			12.0	8.6	6.2	4.4								
350	10.8	4.4				12.0	9.7	6.9	5.4	4.1						
400	12.4	4.4					11.8	8.9	6.8	5.2	3.9	2.9				
450	13.9	4.6						12.8	10.0	7.9	6.2	4.9	3.8			
500	15.5	4.8							11.5	9.1	7.2	5.7	4.5	3.5		
550	17.0	5.0								12.0	9.0	8.0	6.4	5.2	4.2	3.3

**Note:**

This load span table applies to 2.4 m wide units supplied ex Auckland. Auckland units have 2400 wide by 50 thick flanges and 200 wide webs. Widths, profiles and other details vary in other centres.

Shallow units and units near their load limit will have high camber.

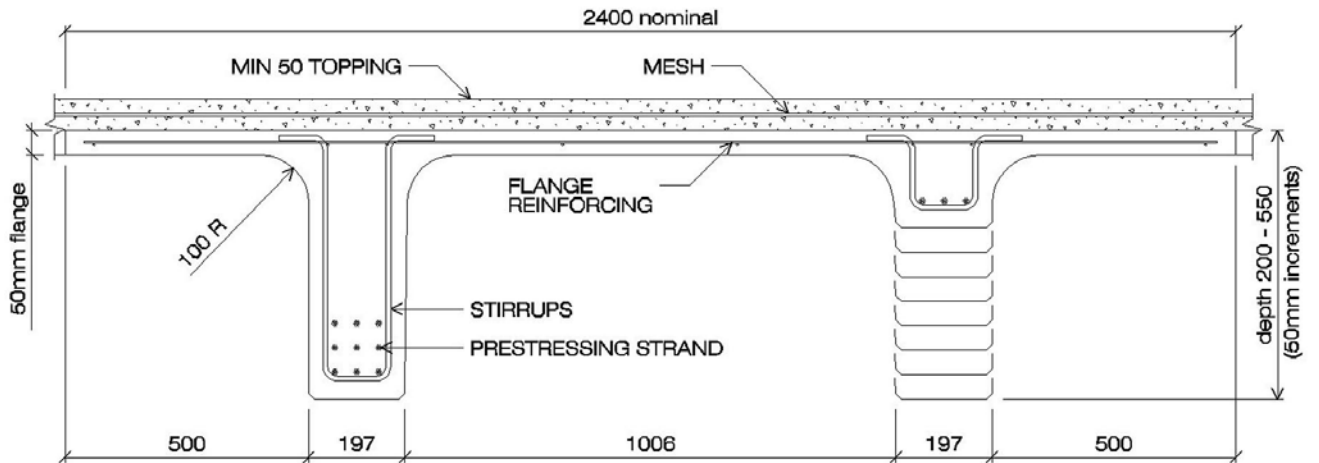
Units near their load limit may be excessively lively.

The shallowest tee may not be the most economical.

Increasing the depth of the tee reduces the cost of prestressing and stirrups and also reduces camber and deflections, generally improving performance and buildability.

For any particular load span combination, there is little additional cost to increase the depth of the tee.

# Double Tee Cross Section



## 2400 mm Double Tees (ex Auckland)

**Note:** Refer to the licensee manufacturers for profiles in other areas.

### Self Weights for Handling:

Tee Size:	200mm	250mm	300mm	350mm	400mm	450mm	500mm	550mm
Self Weight (kg/lin.m)	465	515	565	620	670	720	770	825