

TRENCHBLOCK[®] TONGUE & GROOVE

faster foundations... smarter savings



WHAT IS TRENCHBLOCK[®] TONGUE & GROOVE?

Trenchblock[®] Tongue & Groove is a revolutionary thermal building block for constructing solid foundation walls. As the name suggests, it has 'interlocking' tongue and groove joints at each end that need NO mortar; they simply slot together!



Impressed?

You should be, but the savings don't stop there. Because of their unique shape and size; with Trenchblock[®] Tongue & Groove you'll only need to build one supporting wall not two!

- No infill
- No wall ties
- No messing
- No waste

Just simple logic and tried and tested technology from Thermalite, the leading brand in the field.

What could be easier?

Thermalite's Trenchblock[®] Tongue & Groove blocks are simple to lay and easy to transport, but their greatest advantage lies in not having to apply mortar to the ends. Think of the amount of time and labour spent mixing, moving and applying mortar to the ends of standard blocks, when by using Trenchblock[®] Tongue & Groove you don't have to!

Building supporting foundation walls just got easier with Thermalite Trenchblock[®] Tongue & Groove.



WHY AREN'T YOU USING THEM?

You think they're more expensive?

As individual blocks compared to standard blocks they are... but they're bigger!

In fact they're equivalent to 2 standard size aggregate blocks plus concrete infill, yet they provide better insulation than standard blocks and with only one skin to build there's only half the number of blocks to handle!

Oh and by the way, as an added bonus, The Health & Safety Executive recommends that blocks with handholds should be selected wherever possible. Thermalite is the only block in the UK to offer handholds, making building with Trenchblock[®] Tongue & Groove not only faster, but safer* too.

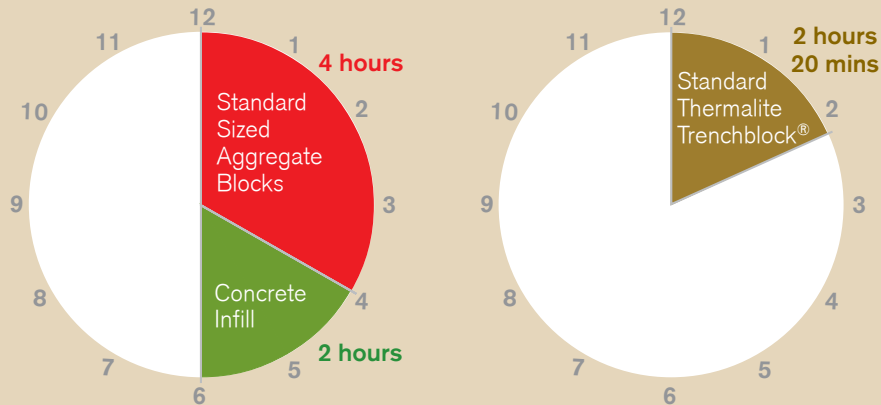
Handling

And talking of handling, each block has special built-in, 'easy-lift' moulded handholds at each end, making manual handling safer*, easier and of course quicker. Add all these factors together and the time savings are obvious!



*Certain strength and width combinations exceed 20kg

WHAT ARE THE BENEFITS TO YOU?



06

Independently tried and tested

Using standard Thermalite Trenchblock[®], a 60 metre run of blockwork was laid in just 2 hours and 20 minutes*. In contrast, the corresponding standard aggregate blocks took 6 hours to lay and infill with concrete.

So, on just 60 metres of blockwork, standard Thermalite Trenchblock[®] can save a massive 3 hours – imagine the extra savings to be made when laying hundreds of metres of Tongue and Groove Trenchblock[®] with the added benefits of handholds and the tongue and groove joints!

*Tests conducted by Percy Howes Chartered Surveyors

THERMALITE



- Over 50% less labour time overall
- Big cost savings
- No mortar required on perp ends
- Less waste
- Easy to cut and handle
- Improved productivity
- Available in strengths of 3.6 N/mm² and 7.3 N/mm²
- Suitable for soils up to and including class DS 4 sulfate levels
- Ideal for Brownfield sites
- Can minimise the heat loss at junctions when used in conjunction with Thermalite walls and floors, thus providing a benefit to linear thermal bridging values.

Save time, save money, work safer, work smarter.

With the average foundation length of a 'new build' house around 60 metres, the savings to be made using Trenchblock[®] Tongue and Groove, even on a relatively small number of houses, can run to many days! Think of the savings you could make in time and money over a single year by changing to Trenchblock[®] Tongue and Groove.



07

The most obvious benefits using Trenchblock® Tongue & Groove are the cost savings, but it doesn't stop there. A brief glance at the technical information here should serve to confirm that in almost every category Trenchblock® Tongue & Groove blocks are superior to standard blocks with many hidden cost savings both in the build process and the ongoing benefits to the building itself.



- Unique building blocks for constructing solid foundation walls.
- Tongue and groove joints enable the blocks to slot easily together in one simple process aiding alignment.
- The perp-ends do not need to be mortared, providing a much quicker method of construction.
- Hand holds are built into the blocks for easy lifting.
- Available in strengths of 3.6 N/mm² and 7.3 N/mm²
- Suitable for soils up to and including class 4 sulfate levels and ideal for Brownfield sites.

Sustainability

Trenchblock® Tongue & Groove is easy on the environment too. All Thermalite products are made from up to 80% recycled materials and offer high levels of thermal insulation. With these impressive credentials, it's no surprise that Thermalite products can make a building more energy efficient throughout its life, saving heating costs and putting less CO₂ into the atmosphere.

THE FACTS A BRIEF ROUND UP

FOUNDATIONS

Trenchblock® Tongue and Groove

Strength 3.6 N/mm²

Thermal conductivity 0.24 W/m.K[#]

Density 600 kg/m³

High Strength Trenchblock®

Tongue and Groove

Strength 7.3 N/mm²

Thermal conductivity 0.29 W/m.K[#]

Density 730 kg/m³

Thermalite Trenchblock® is a tried and tested, economical alternative to the construction of cavity walls with concrete infill for foundations.

TONGUE & GROOVE

Tongue and groove joints and integral handholds are two simple, yet ingenious modifications that have been added to the Trenchblock® range for foundations.

The tongue and groove joints enable blocks to slot easily together in one simple process. By joining the blocks together in this way, the perp-ends do not need to be mortared, providing a much quicker method of construction.

HANDHOLDS

The Health & Safety Executive recommends that blocks with handholds should be selected wherever possible. Thermalite is the only block manufactured in the UK to offer handholds, making building with Thermalite not only faster, but safer too.**

FACE DIMENSIONS

Face dimensions (mm): 440 x 215²

TOLERANCES

Length: + 3 mm - 5 mm

Width: ± 2 mm

Height: + 3 mm - 5 mm

TECHNICAL DATA

| Product | Trenchblock® Tongue & Groove | | | Hi-Strength Trenchblock® Tongue & Groove | | |
|-------------------------------------|------------------------------|------|------|--|------|------|
| Face Dimensions (mm) | 440 x 215 | | | 440 x 215 | | |
| Strength ^① | 3.6 N/mm ² | | | 7.3 N/mm ² | | |
| Dry Density | 600 kg/m ³ | | | 730 kg/m ³ | | |
| Thermal Conductivity (below ground) | 0.24 W/m.K | | | 0.29 W/m.K | | |
| Block Widths ^① (mm) | 275 | 300 | 355* | 275 | 300 | 355* |
| Block Weights ^② (kg) | 16.1 | 17.5 | 20.8 | 19.6 | 21.3 | 25.3 |
| Wall Weights (kg/m ²) | 192 | 210 | 248 | 227 | 247 | 293 |

② Block weights are calculated using specified gross dry density, with a moisture content of 3% by weight added to provide the equilibrium value.

① Other strengths and sizes may be available upon request. Please contact our customer services department on 08705 626500.

Blocks at time of use will be heavier. Weights at time of use will be dependant on storage conditions. *Manufactured to special order only.

** Certain strength and width combinations exceed 20kg. *Thermal conductivity is quoted for use below ground and is different for that when used above dpc.

HOW MUCH TIME AND MONEY CAN YOU SAVE?

On the following page we have produced a 'Savings Wheel' which illustrates the potential savings to be made using Trenchblock® Tongue & Groove over standard aggregate blocks* Savings made in overall time will quickly translate as cost savings on the entire build.

Here are a few facts and figures to bear in mind when using the wheel to calculate potential time savings:

- An average house extension uses around 8 square metres of blocks.
- A 3-4 bed average family home uses around 40 square metres of blocks.
- An Executive style 4-5 bed home uses around 60 square metres of blocks.

TYPICAL COSTS*

Using Standard Aggregate Blocks

£9.50* per square metre (but you need two skins), so it's actually £19.00 per square metre.

Labour

£12.00* per square metre (but you need two skins so there's twice as much to buy and lay) so it's actually £24.00 per square metre. Concrete infill (filling in between two skins of block) £7.50* per square metre, including labour and wall ties.

TOTAL COST £50.50 per square metre

Using Trenchblock® Tongue & Groove

£30.00* per square metre

Labour

£12.00* per square metre

TOTAL COST £42.00 per square metre
Saving approximately 17% per square metre.

TRENCHBLOCK® TONGUE & GROOVE SAVINGS WHEEL

THERMALITE®

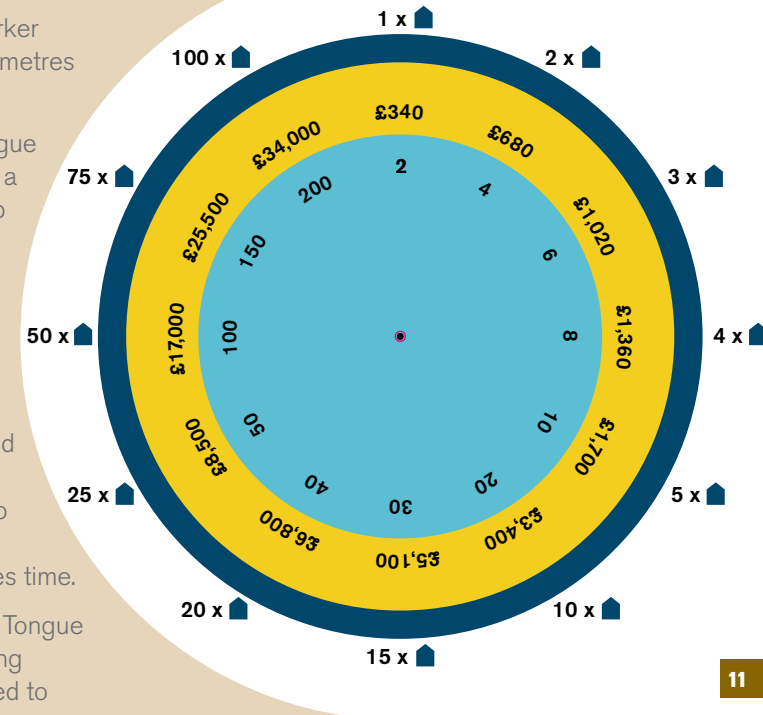
An average ground worker lays around 40 square metres of blockwork a day.

With Trenchblock® Tongue & Groove it would take a day to lay 750mm deep footings for an average 3-4 bed family home. In contrast with traditional aggregate blocks you'd need one day to lay 1 skin of 40 square metres, a second day to lay the next skin and an additional day to allow for curing before infilling, which also takes time.

By using Trenchblock® Tongue and Groove you're saving around 2 days compared to other traditional materials. Imagine how much quicker a development could be finished, not to mention the savings to be made!

To work out the potential savings using this wheel:

1. Line up the arrow on the outer ring with the number of 3/4 bedroom houses you are building.
2. The number of days and the money you could save, based on calculations from the 'Typical Costs' table, will then show in the appropriate window.



= 3/4 bedroom house

*These prices are strictly for use as a guide only. Labour rates are taken as a national average and may vary. For all quotations please contact customer services on 08705 626500.

*The tests used to produce these results were carried out by an independent ground worker. Labour rates are taken as a national average and may vary. Savings shown above are approximate. These prices are strictly for use as a guide only. For all quotations please contact customer services on 08705 626500.

Hanson is one of the UK's largest suppliers of construction materials. Our products include aggregates, asphalt, ready-mixed concrete, bricks, blocks and cement. We are part of the HeidelbergCement Group, which employs 53,000 people across five continents and is the global leader in aggregates and has leading positions in cement, concrete and heavy building products.

Hanson Building Products – A sustainable business

Hanson Building Products is committed to being a sustainable business and contributing to sustainable development. We achieve this by continuous improvement of our manufacturing and extraction processes and by providing products which contribute to sustainable construction.

Made at factories certified to ISO 14001, our clay and concrete products have many features which assist our customers in constructing attractive, sustainable buildings which enrich the built environment and are ideal for zero carbon developments.

These include: thermal mass, thermal and sound insulation, longevity, durability, low maintenance, flexibility, flood resistance and the ability to be recycled. We can advise on how best to use our products in sustainable buildings and how they contribute to high ratings under the Code for Sustainable Homes and BREEAM.



Hanson Thermalite - Aircrete Blocks

6 Pembroke Road, Sevenoaks
Kent, TN13 1XR
Tel: 08705 626500
Fax: 08705 626550

Email: thermalitesales@hanson.com
Website: www.hanson.com/uk/blocks