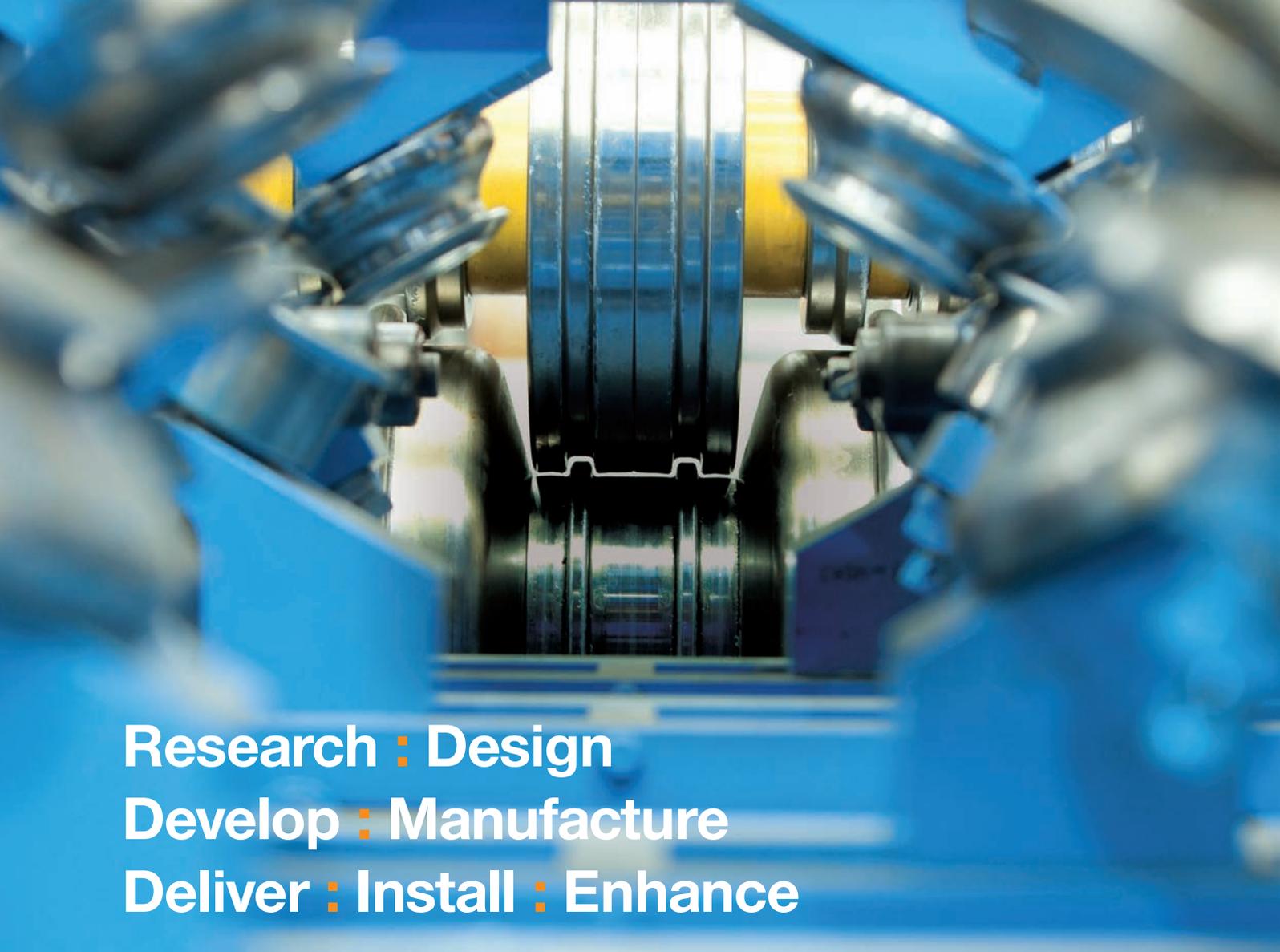




Innovators in Trench Sheeting



Research : Design Develop : Manufacture Deliver : Install : Enhance

We are the leading manufacturers of specially designed and engineered steel profile products. Our supply chain partners are not only industry leading but mirror our own innovative approach and as such combined we bring an unrivalled product range and support to the UK market.

The majority of our products are manufactured by ourselves in house, using roll-forming design and other manufacturing techniques.

These manufactured products and processes we have designed, installed and implemented using our own engineering skills, all of which exist in our new state of the art production facilities in Brighouse.

The products range from varying and various structural steel grades, thicknesses and finishes, and therefore is diverse.

The current product portfolio for our clients is currently running at a thickness range of 0.4mm to 10.0mm, and is ever expanding.

These products have been designed and engineered for a specific purpose usually in the construction industry, but the possibilities for

designing and manufacturing other roll-formed products and profiles for a multitude of purposes is practically endless.

These designs are usually performed to bring the end customer some sort of advantage over more traditional and established shaped products. Such advantages being weight per unit used, strength advantages in profile design, speed and efficiencies of our fast roll-forming techniques over pressed alternatives, and many other advantages that become clearer from product to product.

Anything that has a uniform cross-sectional shape can be roll-formed at various lengths, and this makes commercial sense when the volume and repetition of an item is sufficient enough to make investment in such an item worthwhile.

This investment, which we undertake on your behalf, serves as a way of improving your product.

In short, we turn our competitive advantage into your own, allowing you to compete and perform better on design, supply, service, speed, flexibility and other efficiencies.

Over 30 years of traditional steel knowledge fully complements our new fresh engineering style – it allows us to manufacture high-end engineered products efficiently and also allows us to source the steel in the most efficient manner.

In today's ever more competitive and changing markets, Firth Steels continues to look to enhance and diversify its product and customer portfolio, by adding value in designing roll-forming processes and products for end users.



James Firth,
Managing Director

“The key to productivity and efficiency is not just about the manufacturing techniques themselves, but also system and supply chain integration. By having the right systems in place and automating how everything feeds from the main client through to us, our in-house bespoke project systems give us real time information as to where the project is in the cycle, as well as full production line integration and feedback. This information speeds up our decision-making process and allows us to be flexible to customer’s needs. This integration allows us to form long-standing relationships – Strategic Alliances – with customers who like this level of service, quality, information flow and traceability.

Come and visit us to see what we are about.”

Contents

- 02 Introduction
- 04 Innovation
- 05 Our People
- 06 Our Projects
- 07 Trench Sheet

Innovation

Choice

Our trench sheet profiles come in a full array of thicknesses including 3.4mm, 3.5mm, 6.0mm, 8.0mm and in yields of S275 JR, S355 JO with further higher yields and thicknesses possible.

Technical Competence

Technically speaking we have a product range that has been physically tested by the SCI and is CE approved. These processes allow us to provide you with a product and data sheet that offers the most accurate reliable information available.



Innovation

We can work with our clients to enable stronger and improved profiles. This can be done by enhanced profile re-design using our in-house design facilities, and using higher technical capabilities such as higher yields and thickness combinations.

Production

Unique bespoke systems enable real time updates from quote right through to delivery. This is a true industry leading USP that will bring an array of benefits to your supply management.

Delivery

Simply put, we work with you to achieve the date you want.

Quality Assurance



All our trench sheet profiles are manufactured under our Factory Production Control System, which is certified by the SCCS as CE Marked under BS EN 100025-2:2004.

We offer full test certificates for all raw material sourced from leading European mills. Quality sheets are available for all end products roll-formed, testing conformity on dimension and shape

We research your current steel product and look at what it is used for. We **design** suitable alternatives that have significant weight, strength and other advantages over the previous profile. We **develop** alternatives as to how to make that steel profile by roll-forming, pressing or other manufacturing techniques. We work with leading machinery manufacturers to get a production solution that is efficient and works for us and the customer. We order the machinery, commission into our state-of-the-art production facilities and commence the **manufacture** of the product, and **deliver** anywhere in the UK and the World. We have Strategic Alliances with leading UK companies on the **install** of your product to ensure that the products are fit for end use in situ. We continuously look at ways to **enhance** and improve the service and features of your product.

Firth Vision

To become the leading UK manufacturer of a well-diversified but focussed portfolio of structural steel profiles and products by innovation of not just the products themselves, but the processes that make them.

Firth Strengths

Our engineering capability for steel profile and roll-forming process design is second to none. This is backed up by years of experience in buying steel products, both in strip and long form.

Firth Values

We are a family owned company and therefore our values as to how we treat our staff, customers and suppliers is extremely important to us.

Key People



James Firth
Managing Director

Current Responsibilities

Overall Running of the Company
Strategic Direction of the Company
Financial & Manufacturing Systems Improvement
Innovation & Product Placement
Head Buyer of Steel Products for Manufacturing

“The true cost of doing something in a half-hearted, half-costed approach is far greater than the difference in the price of doing it properly in the first place.”



Steve Booth
Operations Director

Current Responsibilities

Steel Profile Design
Manufacturing at Speed Design
Ergonomics for Efficiency
Profile Quality Control
Overall Responsibility for Shop Floor & Operations
Logistics Optimisation

“After all the hard work, when the finished equipment is up and running and the product comes off the line, the satisfaction is immense.”



Scott Wall
National Sales
Manager

Current Responsibilities

Roofing Project Requirements Analysis
Roofing Customer Queries & Liaison
Roofing & Cladding Technical Support
Product Development / Sourcing
Sales Team Management
Product Promotion

“Innovation and customer focus is key. We work hard to make sure your experience is seamless.”

Our Projects

**Firth Steels
have completed
hundreds of
projects.**

**Here are just a
few examples of
how we have helped
build a better Great
Britain and other
projects around
the globe.**

**The Shard
T5 Heathrow
T2 Heathrow
Eldon Square
Dubai Airport
Millennium Dome
Molineux Stadium
Olympic Stadium
Olympic Velodrome
Boo Hoo Warehouse
Olympic Media Centre
Saracens Rugby Club
Bookers Warehouse
Royal Oldham Hospital
Wimbledon Centre Court
National Football Centre
M&S Distribution Centre
Olympic Aquatics Centre
Airbus Hangar & Assembly
Bullring Shopping Centre
Riverside Business Park
Birmingham New Street Station
Liverpool John Moore University
Jaguar Landrover, Castle Bromwich
Glasgow Museum of Transport
Rolls Royce Manufacturing Centre
Eagles Meadow Shopping Centre**



Trench Sheet

Firth Steels are the leading UK manufacturers of cold roll-formed trench sheeting. Our product range and production process offer unrivalled quality, flexible lead-times and competitive prices.

Lapped

- Standard
- FKD 400/6
- KKD 600/6
- KKD 600/8
- ER 750/8

Interlocking

- L8
- FLP 600/3.5
- FLP 600/6

Trench Sheets

Firth Steels are the leading UK manufacturers of cold roll-formed trench sheeting. Our product range and production process offer unrivalled quality, flexible lead-times and competitive prices.

Firth Steels manufacture various profiles and thicknesses ranging from 3.5mm to 8.0mm. All profiles are manufactured in our state of the art production facilities in Brighthouse, supplied in lengths from 3 metres to 12 metres with quick lead times.

The range includes both lapped and interlocked sheets, with handling holes provided as standard at one end of the sheet. Trench sheets are generally specified to support the vertical faces of most small to medium sized trenches and excavations between 1m and 9m in depth.

All trench sheet products are quality controlled under our Factory Production Control system, and are certified as conforming to BS EN 10249-1:1996 (Technical Delivery Conditions) and BS EN 10249-2:1996 (Tolerances on Shape and Dimension).



Trench Sheets are designed to be used with other steel products to form a kit that allows better lateral support in situ.

Hot rolled coil specifications used as the raw material are certified as conforming to EN10025-2:2004 (Yield and Chemical & Mechanical Properties) and EN10051:2010 (Tolerances on Shape and Dimension). All these mill test certificates, as well as Firth Steels' own for the manufactured product, are supplied with each trench sheet product delivered.

Our unique bespoke project management and production software allows our main office to offer full project scheduling and manufacturing/ delivery visibility. This prioritises production according to the varying products and lines we offer, allowing full traceability at all stages of manufacture.

Full scheduling functionality allows us to upload material schedules from our clients, which are then added to the project ready for call-off. When ready for manufacture, the material schedules and pack details are downloaded to our state of the art roll-forming lines. Both these aspects reduce the need for human interaction and typing errors.

Trench sheet products are manufactured exclusively for our client MGF Trench Construction Ltd and are used to support earth banks for the safety of construction workers. They are ideal for permanent reinforcement of waterway banks and service trenches. The sheets are designed to be handled by excavators using the bucket to drive the sheets vertically into the ground, and are fully compatible with MGF's complete shoring range.



Trench Sheets

Trench sheets are available in a wide range of profiles and lengths and are generally specified to support the vertical faces of most small to medium sized trenches and excavations between 1m and 9m in depth.

The sheets are designed to be handled and installed by excavators using the bucket to drive the sheets vertically into the ground and are fully compatible with the complete MGF shoring range. The range includes both lapped and interlocking systems. Handling holes are provided as standard at one end of the sheet.

Product Notes

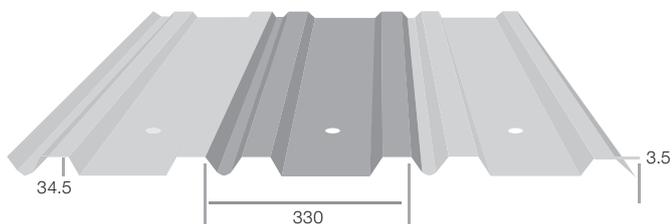
1. Trench sheets should only be installed and removed by competent persons using excavators specified to suit the size of trench sheet and the anticipated ground conditions/site constraints.
2. Trench sheets are heavy and difficult to handle/pitch on site and these operations should only be carried out by experienced banksmen. Always ensure that the piles are not lifted over personnel and that the trailing ropes on Quick Release Shackles cannot snag. Great care should be taken to avoid trapping fingers whilst pitching the sheets. Additional care must be taken in windy conditions when it is recommended that at least 2 persons are used to pitch the sheets.
3. It is strongly recommended that a driving cap is always used to prevent unnecessary damage to the tops of the trench sheet when being driven into the ground using the excavator bucket.
4. When stacking sheets on site it is recommended that they are placed in bundles of no more than 6 sheets and staggered on timber spacers to allow for ease of handling and to minimise the risk of trapping hands/fingers.
5. Other sheet lengths, profiles and grades are available upon request. Some sheets can be supplied with a galvanised finish. Please call for details.
6. In order to assist installation MGF can supply guide walings and piling frames. For availability and details contact MGF direct.
7. Trench sheets must only be removed using MGF extractors. Use of a quick release shackle for extraction will lead to damage of the spring mechanism.
8. MGF offer a complete re-roll and refurbishment facility for damaged trench sheets.
9. Interlocking trench sheets can provide limited protection against groundwater ingress and should always be used with caution where high water flows are anticipated.
10. Trench sheets are generally not recommended for cantilevered designs as deflections can be a significant issue.

Sheet Type	Material Grade	Max SWL	Section Modulus	Moment of Inertia	Weight per m	Weight per m ²
		kNm/m	cm ³ /m	cm ⁴ /m	kg/m	kg/m ²
Standard	S235 JRC	7.3	45.7	84.8	11.3	34.4
FKD 400/6	S275 JRC	19.0	98.8	250.1	22.1	55.3
KKD 600/6	S275 JRC	33.7	184	717.5	37.5	62.5
KKD 600/8	S275 JRC	43.4	242	947	50	83.3
ER 750/8	S355 JOC	60.2	254	1197.2	53.6	72.2
L8	S275 JRC	10.5	52.3	98.15	14.4	33.2
FLP 600/3.5	S275 JRC	33.5	183	1215.1	23.1	38.5
FLP 600/6	S275 JRC	56.0	306	2067.2	38.8	64.6

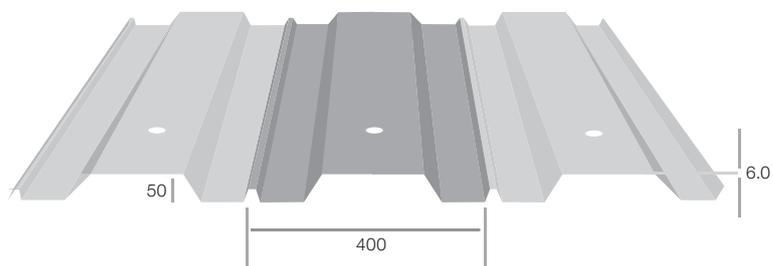


Trench Sheets: **Lapped**

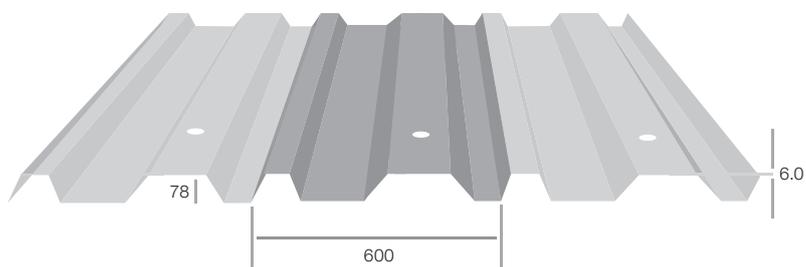
Standard



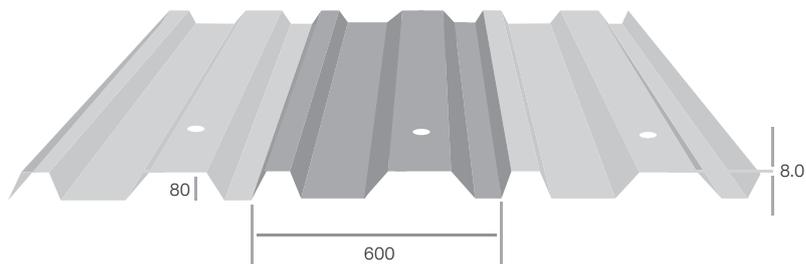
FKD 400/6



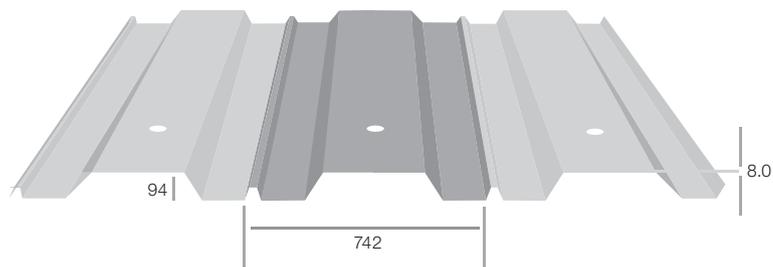
KKD 600/6



KKD 600/8

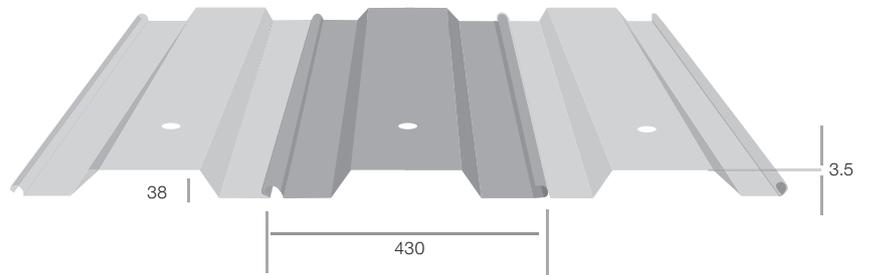


ER 750/8

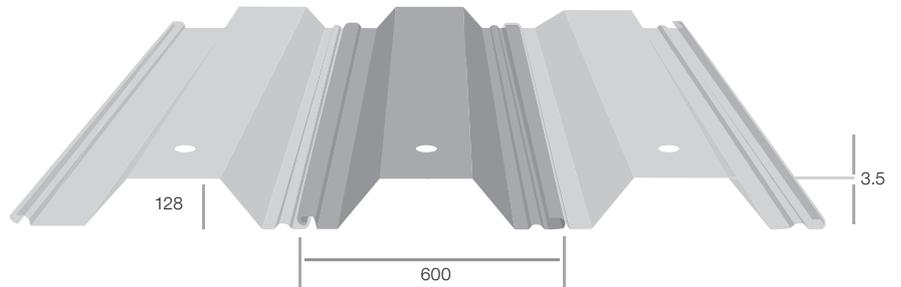


Trench Sheets: **Interlocking**

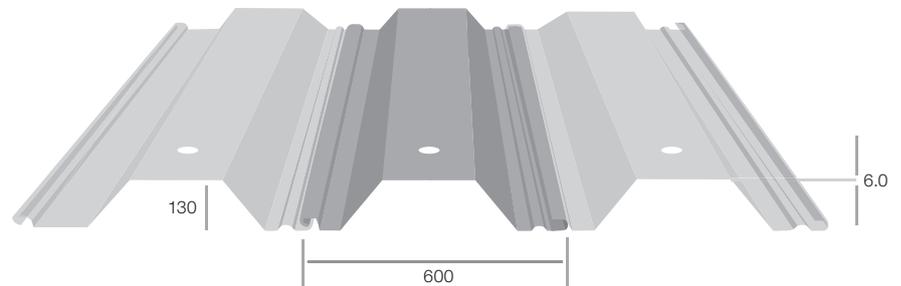
L8



FLP 600/3.5



FLP 600/6





Calderbank, River Street, Brighouse,
West Yorkshire, United Kingdom HD6 1LU

t: +44 (0) 1484 405940

f: +44 (0) 1484 405941

Contact the Managing Director, James Firth

e: james@firth-steels.co.uk

m: +44 (0) 7786 328469

w: firth-steels.co.uk

February 2016

Protex is registered trademark of Firth Steels Ltd.

This publication is accurate to the best of our knowledge and understanding. Although every effort has been made to ensure accuracy, the company does not assume any responsibility for any errors or omissions, or any direct, indirect or consequential damage caused by incorrect application of the information. We reserve the right to make changes and update at any time.

Content featured in this document is subject to copyright protection. Any lawful reproduction of such material subject to receiving written consent from Firth Steels Ltd. Any requests for such permissions should be made in writing.

