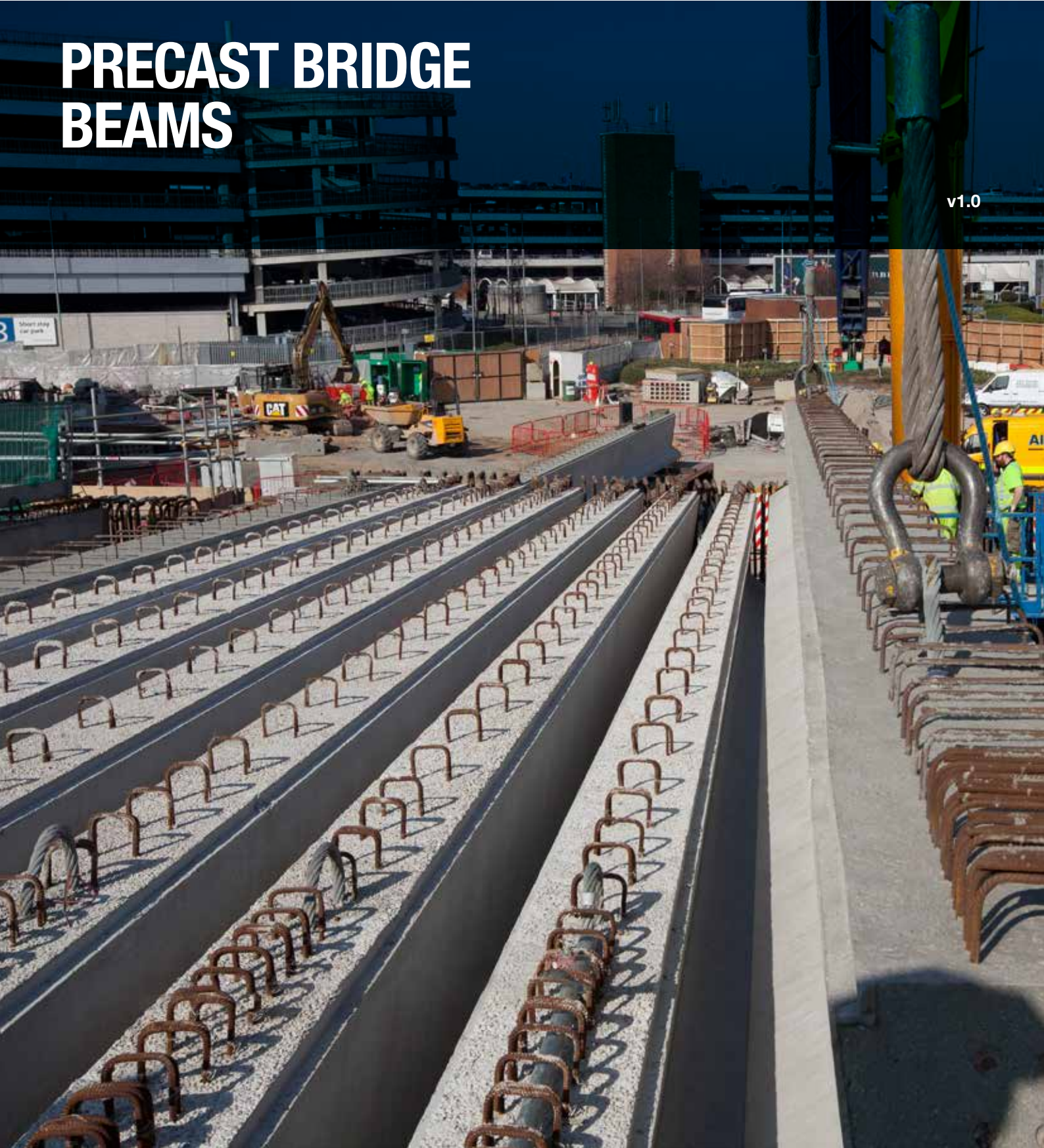


PRECAST BRIDGE BEAMS

v1.0



OUR COMPANY

FP McCann is the UK's largest manufacturer and supplier of precast concrete solutions. We are committed to high quality, cost-effective and sustainable solutions tailored to meet clients' requirements.

From our fourteen UK manufacturing facilities, FP McCann offers solutions that include architectural and structural solutions, rooms, flooring, fencing, walling, shafts, tunnels, drainage, rail, power and agricultural products. FP McCann has worked on a large range of Design for Manufacture and Assembly (DfMA) projects across the UK. Our in-house Digital Engineering capability has grown in line with government and client expectations.

OUR COMPREHENSIVE PRECAST CONCRETE BUSINESS EXTENDS TO INCLUDE:

**AGRICULTURE | BOX CULVERTS | BRIDGES | BUILDING PRODUCTS | CONCRETE ROOF TILES
DOCK LEVELLER PITS | DRAINAGE | FENCING | FILTER BED SYSTEMS | FLOORING
POWER & INFRASTRUCTURE | PRECAST OFF-SITE BUILDING SOLUTIONS
RAIL | SPECIALIST PRECAST | TANKS & CHAMBERS | TUNNELS & SHAFTS | WALLING**

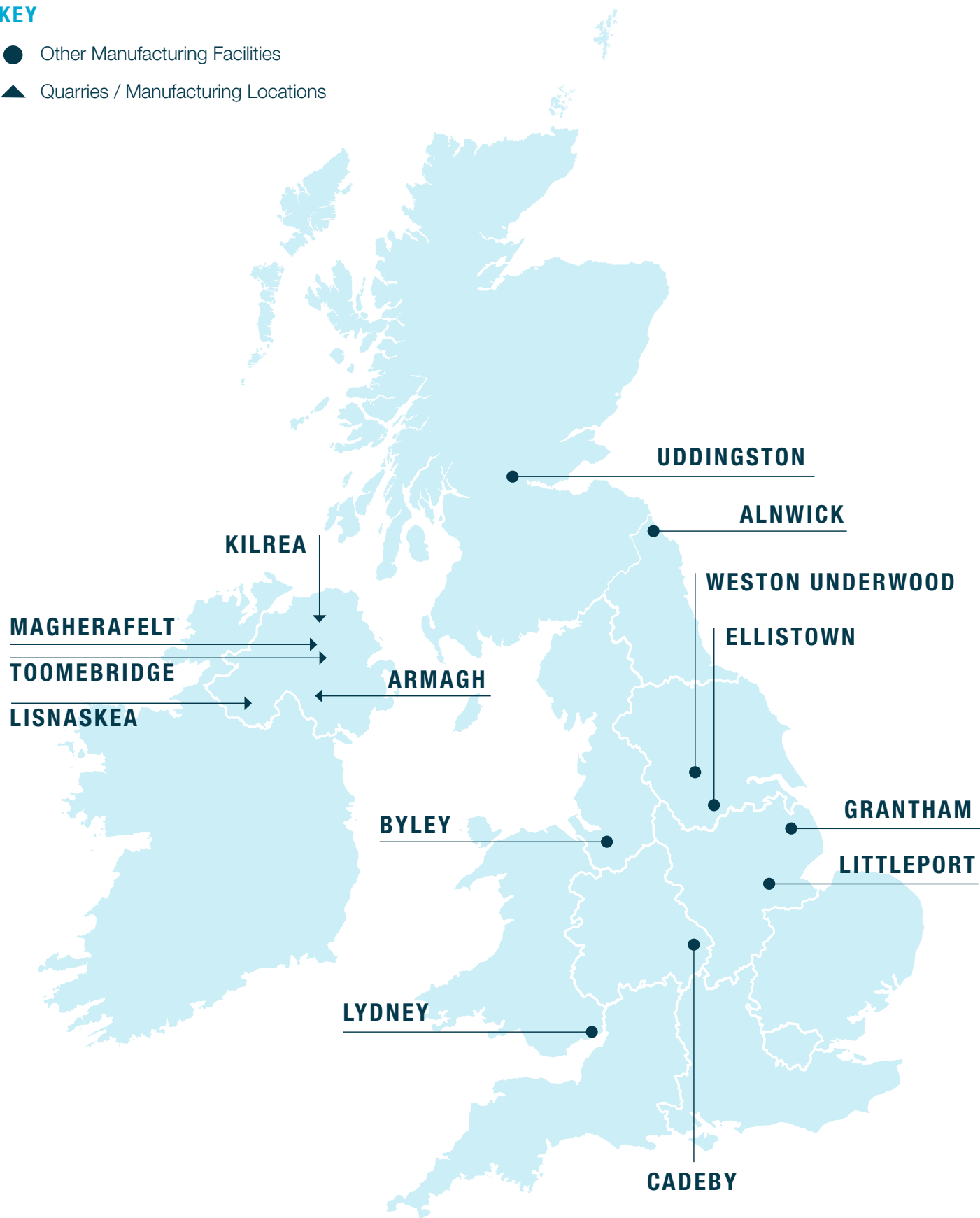
Modern manufacturing plants at Alnwick (Northumberland), Armagh (Northern Ireland), Byley (Cheshire), Cadeby (Leicestershire), Ellistown (Leicestershire), Grantham (Lincolnshire), Lisnaskea (Northern Ireland), Littleport (Cambridgeshire), Lydney (Gloucestershire), Magherafelt (Northern Ireland), Toomebridge (Northern Ireland), Uddingston (Lanarkshire) and Weston Underwood (Derbyshire) incorporate the latest computerised batching, distribution, casting, curing and handling systems and are operated by skilled and experienced workforces to ensure consistency of quality. Their geographical spread gives us an unrivalled ability to serve the construction industry throughout the UK and Ireland.

By applying the DFMA principles, FP McCann's design engineers are able to evaluate individual precast concrete products part by part, in addition to documenting the assembly process step by step. This allows them to generate the cost, part count and assembly time to provide a benchmark to measure its success and identify the parts and process improvement opportunities. In turn, this has allowed FP McCann to design and manufacture more cost-effective and efficient high-quality precast concrete products with less wastage and greater on-site recycling. As a result, increased productivity, combined with a reduction in production time and costs, allows FP McCann to be more competitive within the marketplace.

OUR COMPANY

KEY

- Other Manufacturing Facilities
- ▲ Quarries / Manufacturing Locations





[illegible]

[illegible]



[illegible]

[illegible]

[illegible]

PRECAST BEAMS

Standard prestressed concrete bridge beam

Typical Specification

Concrete

Transfer cube strength 40 N/mm².
28 day cube strength 50 N/mm².
(Higher strengths can be accommodated where necessary).

Cement

Cement usually complies with B.S.12 - Portland.
The following may also be used:-
B.S.3892 - p.f.a.

Admixtures

Comply with B.S.5075 - Concrete admixtures.

Aggregates

Comply with B.S.882 - Concrete aggregates from Natural Sources.

Prestressing Strands

Comply with B.S.5896 with Class 2 relaxation.

12.5mm dia. standard at 123 kN max. initial force in inverted 'T' and 'TY' beams
(alternatively 12.7mm dia. drawn strand at 146.3 kN max. initial force can be used).

15.2mm dia. standard at 174 kN max. initial force in 'Y', 'YE', 'M', 'SY', 'U' and 'UM' beams
(alternatively 15.2mm dia. drawn strand at 210 kN max. initial force can be used).

Secondary Reinforcement

Complies with B.S.4449 or B.S.4482

Length shown on drawings

The length of beams shown on customers drawings is assumed to be the casting length of the beams and that the engineer has taken into consideration the effects of shrinkage and creep.

Tolerances

Unless specifically agreed otherwise beams will be made to the full tolerances shown in DTp specification. Clause 1710.8 (or B.S.8110 Part 1, Clause 6.11.3 and 6.11.4).

Surface Finish

Top. Rough as cast - DTp Class 2, Clause 1710.8.
Sides & Soffit. F5 - DTp Clause 1708.4 (or B.S.8110 Clause 6.1.3 Type A).

Camber

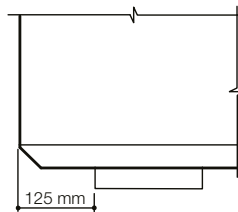
All prestressed beams will have an upward camber due to prestress.

Fixing, inserts, cast in sockets

In side, soffit and ends - should be avoided wherever possible.

Bearings

Bearings for bridge beams should be considered on the merits of each particular application. As a general rule, however, the edge of the bearing closest to the abutment should be detailed at least 125mm in from the end of the beam. (See sketch). Cast in items cannot project below the soffit line of prestressed units.



Weight

The customer should assume a concrete density of 2.5 t/m³.

Quality Assurance

We are a B.S.I. Registered Firm to BS.EN.ISO.9001

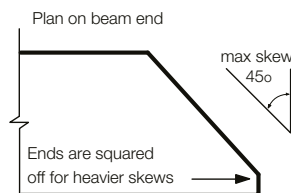
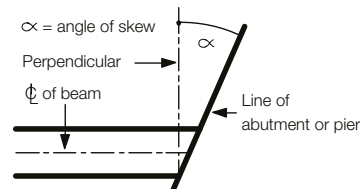
Quality Control

We carry out strict quality control procedures at all stages of manufacture. Copies of all necessary certificates on cement, aggregates, strand, stressing records, cube tests and beam tests are retained within our quality system.

Skews

Skewed ends to beams are expensive and should be avoided wherever possible. However, we are able to produce these details to any angle required, up to a maximum of 45°, beyond which there is a risk that, during manufacture, damage to beam ends may result. Reinforcement. Only reinforcement in the end zone of the beam should be skewed. All other reinforcement in the body of the beam should be detailed square to the section.

Note: A square deck has a zero skew



Stacking

Positions of stacking timbers should be approx. 500mm from the ends of a beam and projecting links should be positioned accordingly.



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AGRICULTURE

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BOX CULVERTS

Byley 01606 843500 Toomebridge 028 7965 0471

BRIDGES

Toomebridge 028 7965 0471

BUILDING PRODUCTS

Cadeby 01455 290780

DOCK LEVELLER PITS

Weston Underwood 01335 361269

DRAINAGE

Ellistown 01530 240000 (England/Wales) Magherafelt 028 7954 9026 (Scotland) Toomebridge 028 7965 0471

FENCING

Cadeby 01455 290780

FILTER BED SYSTEMS

Littleport 01353 861416

FLOORING

Weston Underwood 01335 361269 Uddingston 01698 803300

POWER & INFRASTRUCTURE

Littleport 01353 861416 Toomebridge 028 7965 0471

PRECAST OFF-SITE BUILDING SOLUTIONS

Byley 01606 843500 Grantham 01476 562277 Littleport 01353 861416 Toomebridge 028 7965 0471

RAIL

Littleport 01353 861416 Toomebridge 028 7965 0471

SPECIALIST PRECAST

Littleport 01353 861416 Toomebridge 028 7965 0471

TANKS & CHAMBERS

Littleport 01353 861416 Toomebridge 028 7965 0471

TUNNELS & SHAFTS

Cadeby 01455 290780 Toomebridge 028 7965 0471

WALLING

Grantham 01476 562277 Lydney 01594 847500
Uddingston 01698 803 300 (Scotland) Toomebridge 028 7965 0471