



GUIDANCE NOTE - STEEL REUSE

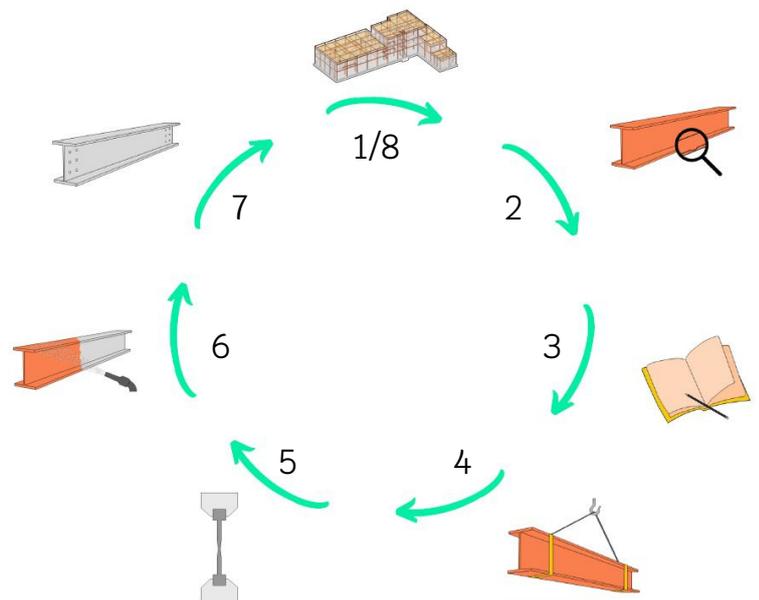
This document summarises the key points on steel reuse, including why we should reuse steel and how we can achieve this today. See below link to the recorded webinar.

[WATCH HERE](#)



WHY REUSE?

- Climate Crisis
- 1% of construction material used is reclaimed (Salvo)
- Embodied carbon associated with recycling steel



HOW CAN WE DO IT TODAY?

The market is currently limited and most steel reuse is likely to be organised on a project or multi-project basis.

- 1 - Select existing building to reclaim steel from
- 2 - Inspect the steel on site to understand reuse potential and de-risk
- 3 - Plan for the deconstruction to ensure reclaimed material amounts are maximised
- 4 - Deconstruct the building, identify and mark the steel in groups, and store
- 5 - Test the steel to verify the grade and other necessary properties identified as per design requirements
- 6 - Prepare the steel, e.g. remove any fire protective coatings, paints etc. as required
- 7 - Fabricate the steel for the new design
- 8 - Deliver the steel to the new site and construct



KEY CHALLENGES



CURRENT MARKET

A **recycling first** approach where current demolition processes and onward supply chains are set up primarily to recycle or dispose material.

Stockists and fabricators are set up to manage and process steel sections straight from a mill that have not been previously fabricated.

Finding suitable sections from reclaimed material for reuse can be challenging in a **limited market place**.

WILLING CLIENT

Are the client and design team happy with the **finish**, as the steel may have a 'used' aesthetic. Currently steel **costs** are highly variable. In its early stages, steel reuse may not save money, however, we expect this to change as the market adapts.

Without early engagement and consideration of steel reuse on a project, the **programme** may be affected to accommodate its later use.



QUALITY OF MATERIAL

Is the material of a suitable quality to be reclaimed and reused as structural steel?

Is there permanent **plastic deformation** and has the steel been plastically stressed? If so, the material is not suitable for reuse.

Old fireproofing, **paint** and **finishes** can be difficult to remove; is this necessary?

Superficial rust and **corrosion** may be present and can be removed before reuse. Is there any serious pitting or loss of material that renders the material unsuitable for reuse?

The **age** of steel is important, anything before the year 1970 is not suitable for reuse (SCI - P427).



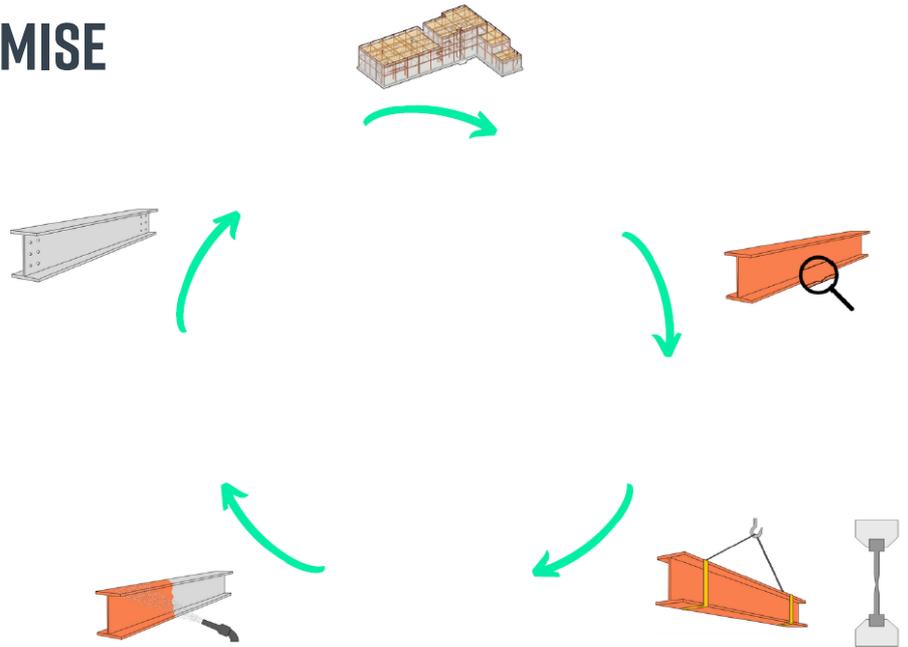
IN THE FUTURE:

This is a market scaled approach, that we envisage being much more similar to standard procurement practises today

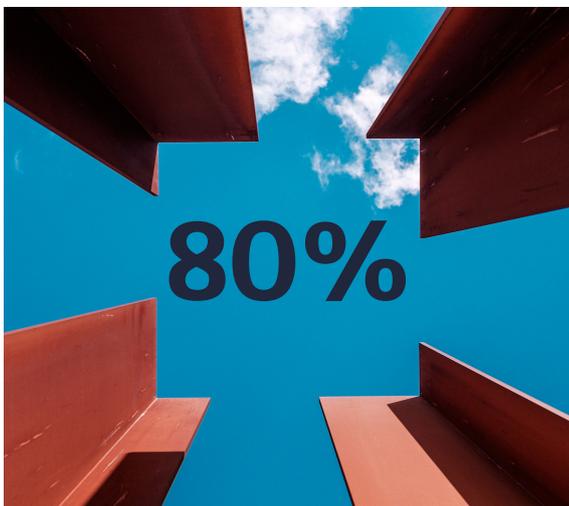
TOGETHER WE CAN OPTIMISE THE PROCESS

In order to:

- Reduce the amount of steps
- Reduce cost
- Delegate responsibility
- Provide clarity to the supply chain



We believe the procurement can be refined by industry to be similar as to that for milled steel from the perspective of designers and final purchasers



EMBODIED CARBON REDUCTION

Early studies by ourselves and by the University of Aalborg suggest that reuse of steel can cut embodied carbon by 80% in comparison to typical procurement routes.



CONCLUSION

WHAT ARE SYMMETRYS DOING?



- Continuing the conversation
- Engaging new stockists and fabricators
- Engaging with demolition contractors. Designing for demolition
- Working with others in the industry to expand the knowledge base of steel reuse

WE WANT TO HEAR FROM YOU

If you have any questions, queries or enquiries please don't hesitate to get in touch.



ruth.chislett@symmetrys.com



matteo.attanasio@symmetrys.com

[Watch the full webinar here](#)

[Unsubscribe / 020 8340 4041 / info@symmetrys.com](#)

Symmetrys Limited registered number: 5873122. Registered in England and Wales
Registered Office: Unit 6 The Courtyard, Lynton Road, London N8 8SL. VAT number: 894 2993 61