

Steel Re-use in circular economy – webinar, 2022-11-03

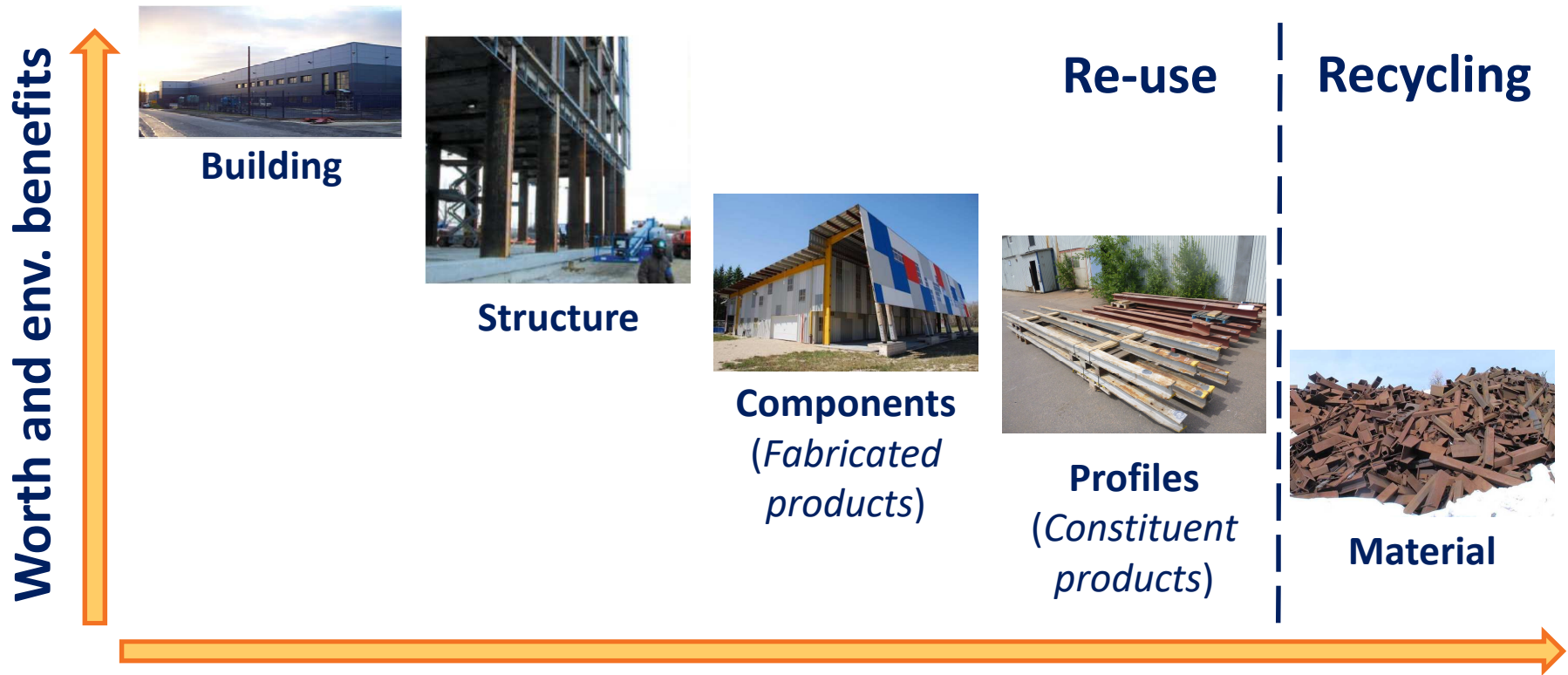
How can we ensure the quality of re-used steel components?

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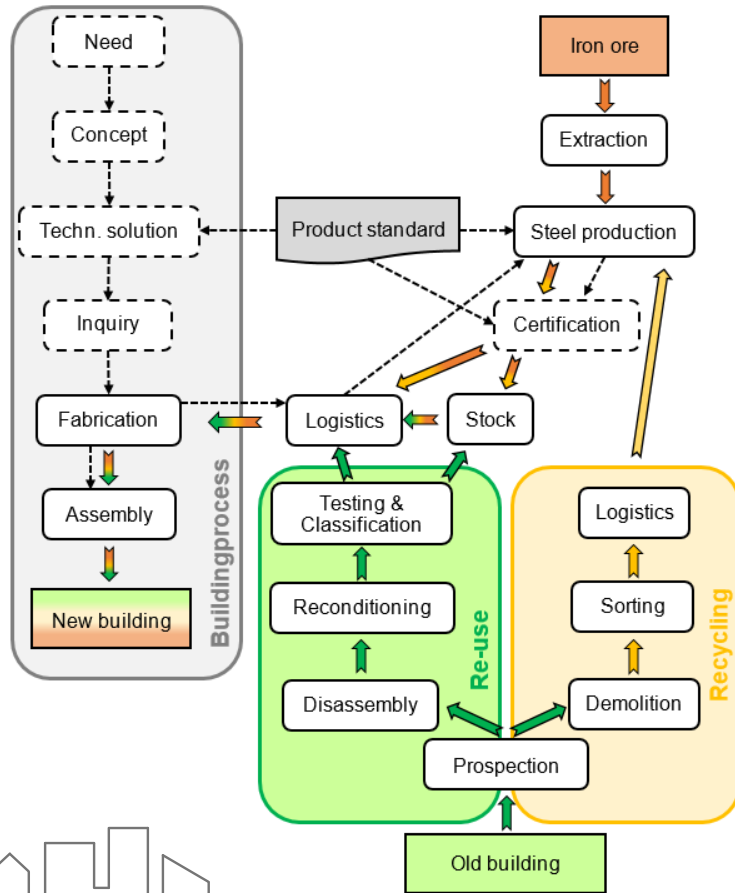


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What re-use ?



The case for integrated Re-use



- Independent re-use industry
- Re-used products are guaranteed similar to new ones
- Can be mixed with new ones to meet the demand
- We need procedures to ensure the quality of re-used products



How does it fit within the current regulatory framework?

Construction Products Regulation



Regulation No.305/2011



- Conditions for the **marketing** of construction products
- Products must have a **Declaration of Performance (DoP)**
- **Mandatory CE-marking based on harmonized standard** (or ETA)
- Not a proof of suitability



Harmonized standards for construction steel

Product standards



Ex. EN 10025, EN 10219

Execution standard



EN 1090

- For new products, not suitable for re-use
- EN 1090-1 for DoP and CE-marking of steel structures
- EN 1090-2 for requirements
- Possible to use non standardized products **if their relevant properties are known**
- Suitability? Based on requirements in **component specification**



EN 1090-2, requirements on constituent products

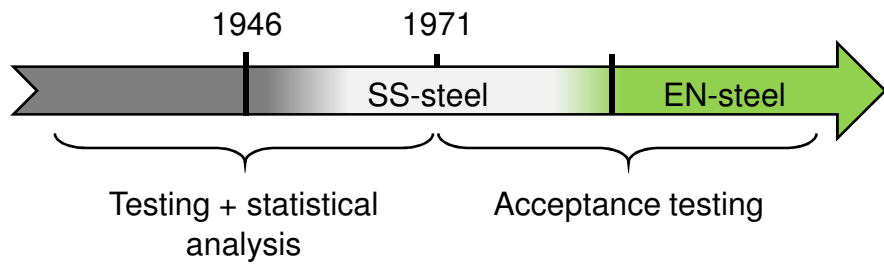
Clause 5.1:

"If constituent products that are not covered by the standards listed are used, their properties shall be specified."

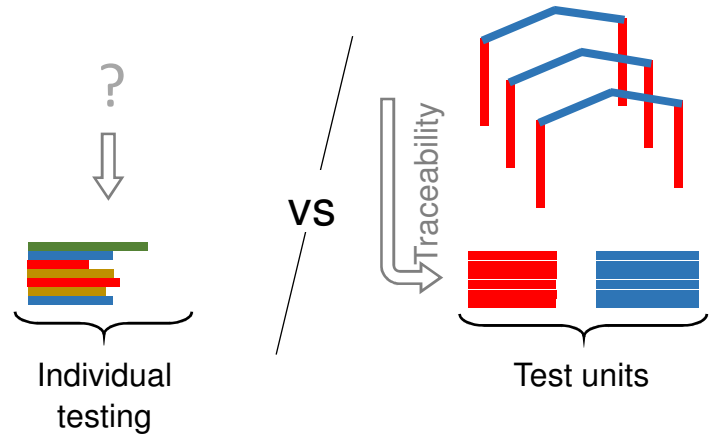
Properties always required	Optional properties
<ul style="list-style-type: none">• Strength (f_y and f_u)• Elongation at failure• Tolerances on dimensions and shape• Heat treatment delivery condition	<ul style="list-style-type: none">• Weldability• Impact strength and toughness• Stress reduction of area requirements• Through thickness requirements (Z-steel)• Limits on internal discontinuities or cracks in zones to be welded



How to reduce the amount of testing?



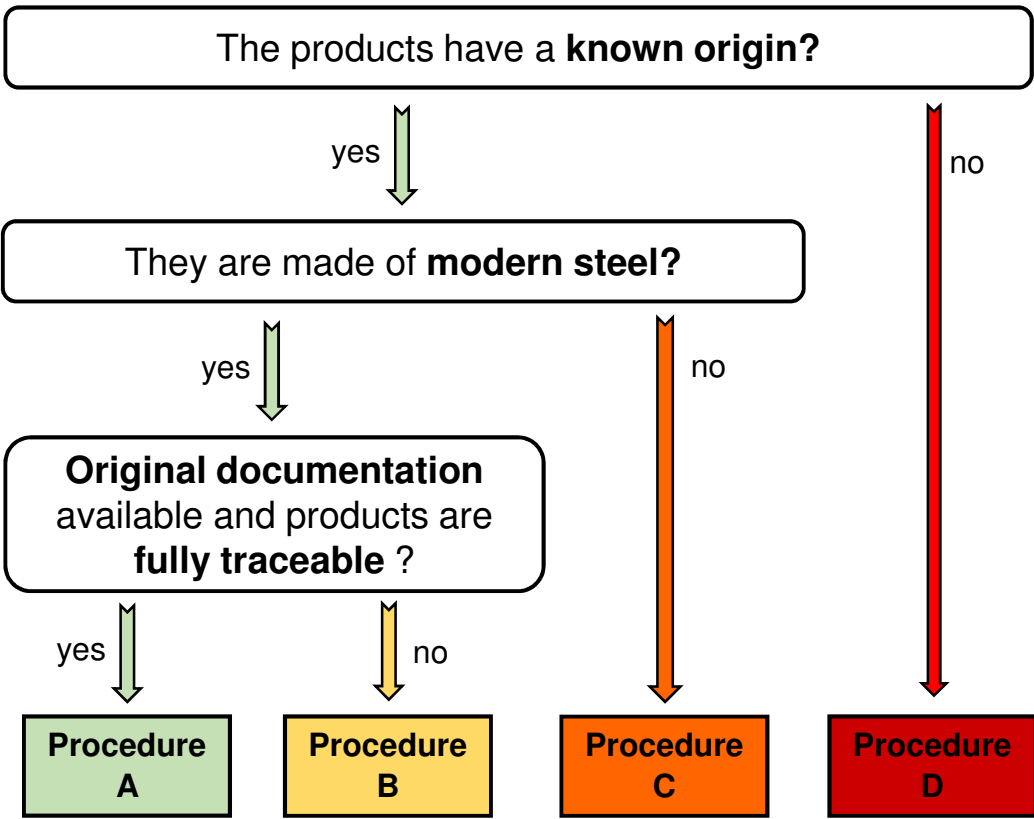
- We know what to expect



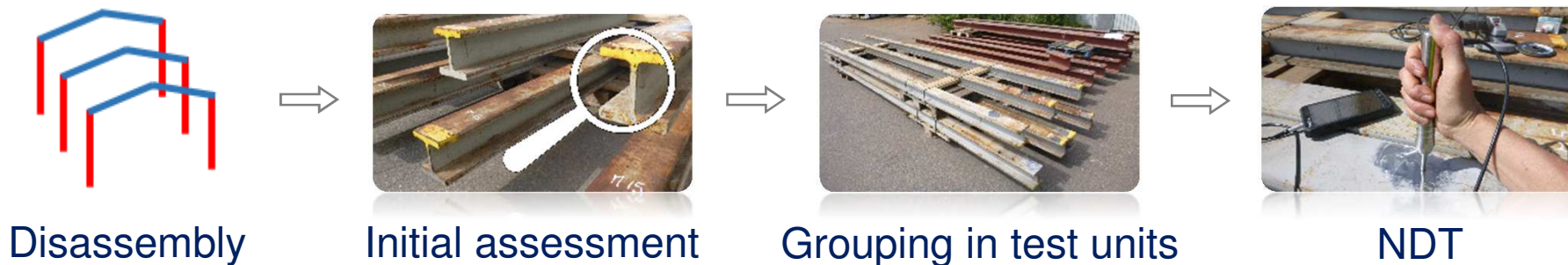
- We do not need to test each and every product



Assessment methods: Swedish "industry standard"



Basic assessment process



Inspection document



On going development on European level

- Proposal for a new CPR

Article 2: new DoP needed if intended use or characteristics are changed

Article 22: a new DoP can be based on earlier DoP. Applies to "used", "remanufactured" and "surplus" products

- CEN/TC135/WG2 is working on a Technical Specification
- Final draft by end 2023, publication in 2024



Questions?

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