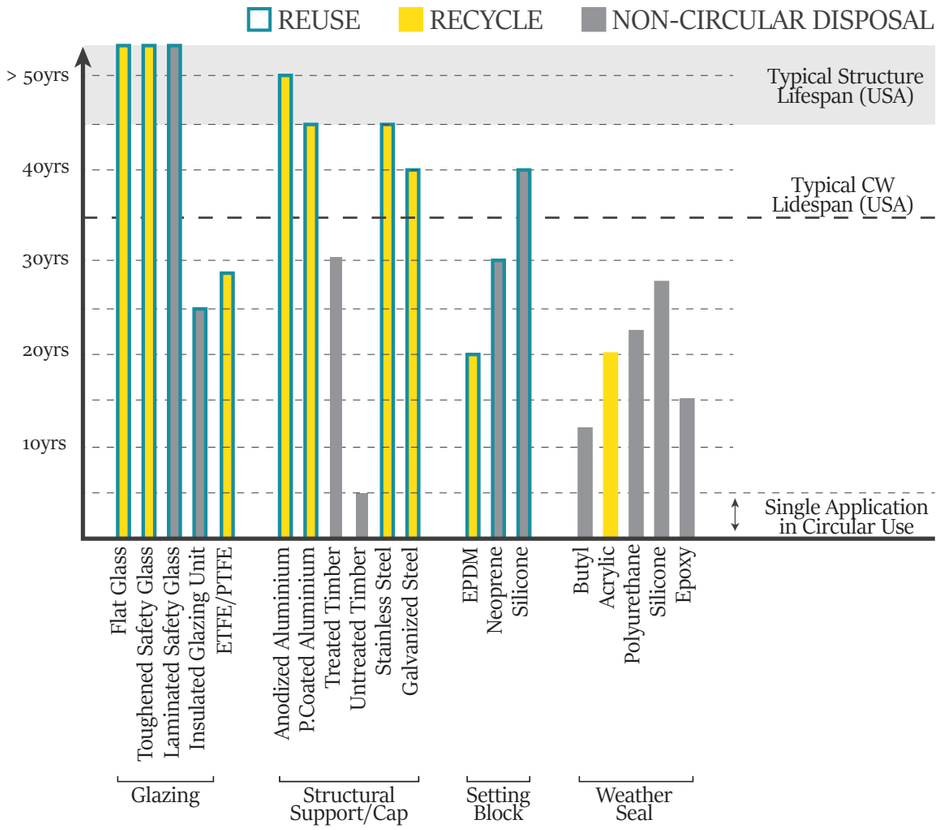
RETHINKING CURTAINWALLS

WASTE MANAGEMENT OPTIMIZATION STRATEGIES FOR CIRCULAR CURTAIN WALL DESIGN

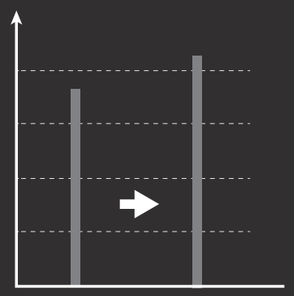
Curtainwalls are typically designed to be as durable as possible. Circular architecture flips the ideal of the ever-resilient enclosure on its head and introduces a new paradigm that calls for a re-evaluation of the way we think about designing sustainable curtainwalls. As designers, we have the ability to design assemblies that substantially reduce material waste by capitalizing on short term applications. The strategies outlined below are different approaches that can optimize waste management of circular curtain walls throughout the design process. They should be considered critically and in conjunction with other ecological parameters such as energy performance and embodied energy to develop comprehensively sustainable enclosures.

LIFE CYCLE DATA FOR VARIOUS CURTAINWALL COMPONENTS



*Use of adhesives and coatings may compromise materials' ability to be recycled.

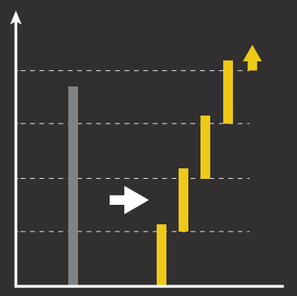
PRESERVATION



Particularly when there is no recyclable alternative, preserving components can maximize re-use.

+ Detail assemblies to protect vulnerable components
+ Use coatings and finishes to preserve materials
+ Design for refurbishment

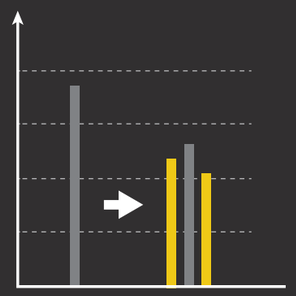
MATERIAL SUBSTITUTION



Shorter lifespans opens possibilities for more sustainable materials.

+ Prioritize materials that can (economically) be infinitely recycled.
+ Sustainable materials that have been rendered obsolete and substituted for more durable polymers may be reintroduced

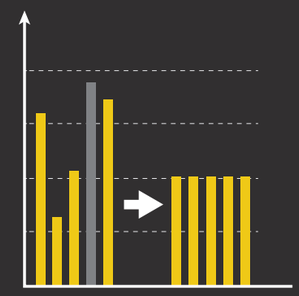
DESIGN FOR DISASSEMBLY



Easy disassembly simplifies separation and sorting for re-use and recycling.

+ Prioritize mechanical fastening
+ Avoid use of adhesives where possible
+ Simplify assembly / Limit number of components
+ Prioritize monomaterials over composite components

RECYCLING REDUNDANCY



Reducing the number of recycling processes involved in an assembly improves the volume and concentration of material, ultimately making recycling more

+ Use redundant materials where possible
+ Prioritize materials with economical recycling processes

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