

# Design for Durability Quick Reference Guide

## Before You Design...

### How Long Is Enough?

Not everything should last a long time. Choose a target lifetime appropriate to your product type.

### No One Lives Forever

Balance durability with end of life using disassembly, recycling, and other design-for-lifetime strategies.

## Be Tough

### Make Parts and Connections Physically Robust

- ☐ Follow lines of force / avoid stress concentrations to make robust parts and assemblies
- ☐ Choose materials that resist fatigue and corrosion
- ☐ Reinforce the parts most likely to fail (see Lightweighting strategies)
- ☐ Predict & optimize performance with software tools like Finite Element Analysis

## Wear Well

### Attractive Finishes, Smooth Works

- ☐ Choose hard materials to resist wear
- ☐ Choose materials that don't resist wear but gain character with wear & weather
- ☐ Choose textures that hide scuffs
- ☐ Choose wear-resistant joints and connections (sealed bearings, self-lubricating bushings)

## Encourage Maintenance

### Enroll The User In Longevity

- ☐ Make care instructions available, clear, & inviting
- ☐ Build maintenance instructions into the interface
- ☐ Provide maintenance tools
- ☐ Provide easy & affordable maintenance service

## Stay Relevant

### Survive Fashion And Lifestyle Changes

- ☐ Classic aesthetics
- ☐ Timeless aesthetics, not fashion-driven
- ☐ Flexible use for changing user needs and scenarios

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