WHAT TO ASK

Key questions for design phase

• What bar of disinfection will be required?
Based on the expected use of this device, (e.g., is C. diff a risk? If so, it needs to stand up to bleach.)

• What is the anticipated life of the device?

• During that time, how often is it likely to be cleaned/disinfected?
  Multiple times a day? Weekly? Monthly?

• Are there materials available that are more durable to repeated exposure to disinfectants?
  Test those materials.

• What is the cost of repairs/replacement vs. incremental material/design costs to enable easy cleaning and disinfection?

WHAT TO AVOID

Design element choices may hinder the cleaning and disinfecting process.

• Sharp edges
  A torn glove can be life threatening!

• Grooves

• Places where disinfectants can pool

• Very thin parts

• Knobs/buttons that protrude
  Touchscreens and membrane keypads are preferred.

• Texture
  Some surface texture improves grip, but too much holds bacteria and is hard to clean.

• Paint
  Paint gets damaged over time and starts to look bad.

• Hard-to-clean designs
  Think about how the part will be cleaned before finalizing the design—then try to clean the prototype yourself.

Eastman Design Services assistance

• Part design critiques
• Mold design assistance
• End-use testing
• Failure analysis
• Secondary operations
• Mold-filling simulation (Moldflow®)
• 3D design (SolidWorks)
• Structural finite element analysis (SolidWorks-Cosmos)
• Material characterization/specialized testing

Contact info

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