Kamengo specializes in the design of storage and feed equipment for handling difficult flowing fibrous and cohesive materials. Problems with Bridging, Plugging, Rat-Holing, and Uneven Feeding can be corrected with the following process:

The research undertaken by the Kamengo team demonstrated that there are three root causes to bin plugging and uneven discharge:

1. POOR BIN GEOMETRY
2. COMPACTION OF THE STORED MATERIAL BY THE DISCHARGE FEEDER
3. UNEVEN DISCHARGE OF THE STORED MATERIAL BY THE DISCHARGE FEEDER

To address the three root causes of bin plugging and uneven discharge, designers need to adopt a design process that is informed by the stored material's flow properties and correctly applies Jenike's theory. This includes asking key questions, such as:

- What flow pattern is appropriate for the material and the application? Will funnel flow work or do the material's flow properties require one to design for mass flow?
- What is the minimum angle for the sloping wall?
- What is the appropriate material for the sloping wall? Is a liner needed?
- What bin shape is appropriate for the material? Are the geometric constraints for a conical hopper reasonable? Do the results of the material flow testing suggest that a plane flow bin shape is most appropriate?
- What is the effective discharge area?
- The research demonstrated that it is critical to think strategically about the feeder. The behaviour of conventional feeders can produce severe negative consequences that may lead to chronic plugging. If one is designing for mass flow, by definition, it is critical that the feeder withdraw material evenly from the entire discharge opening of the storage bin.
- What is the minimum required discharge outlet? What is the bridging dimension for the stored material? What is the piping dimension for the stored material?
Once answers to the above questions have been generated, a solution to the product flow problem can be provided. This may involve changes to the shape/design of the bin and/or replacement of the existing feeder or both. Please see the illustrations and case studies below:
The challenging products shown above are some of the flow solutions Kamengo has provided with bin redesign and/or a Kamengo feeder.
KAMENENGO FEEDERS FEATURE:

- Feed evenly from the entire opening of bin
- First-in, first-out flow pattern
- No material compaction
- Consistent metering of material
- No shearing of material
- Use gravity to discharge
- Low power low wear
- Flexible design