

# Mannogem® XL Ruby

## Enhanced Formulations and Improved Patient Experience

Mannogem XL Ruby is a 300µm granular-grade mannitol meeting NF, EP, and JP requirements. Compared to traditional 300µm granular products, it exhibits superior tableability combined with the soft texture organoleptic profile unique to granular mannitol. Mannogem XL Ruby is the latest innovation in granular mannitol from SPI Pharma. Due to its larger particle size, it helps to solve many of the formulation challenges associated with the development of chewable and orally disintegrating tablets.

Mannogem XL Ruby is a product that can help to improve the patient experience and facilitate drug administration. For example, development of more pleasing chewable tablets incorporating large particle taste-masked APIs with enhanced mouthfeel has been limited because of difficulties creating robust tablets. For the first time, Mannogem XL Ruby enables development of these types of patient-centric formulations.

Mannogem XL Ruby and competitive 300µm granular mannitol were blended with 2.5% sodium stearyl fumarate to create placebo tablets of 500mg. Tablets were compressed under multiple compression forces and were evaluated for robustness. Results are summarized in Figures 2 and 3 below. Mannogem XL Ruby enables robust tablets to be formed with good tensile strength and friability across a range of compression forces. The competitive material was unable to provide consistent robust tablets.

Mannogem XL Ruby was designed to help simplify the formulation process. Ruby is compendial mannitol and has a particle size distribution similar to currently available mannitol excipients. This reduces the complexity of incorporating these compendial materials into existing and new formulations.

*Ruby enables the creation of pleasing, robust chewable tablets incorporating large particle taste-masked APIs.*

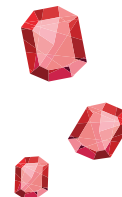


Figure 1: Mannogem XL Ruby Shows Better Tensile Strength Than Competition for Multiple Compression Forces

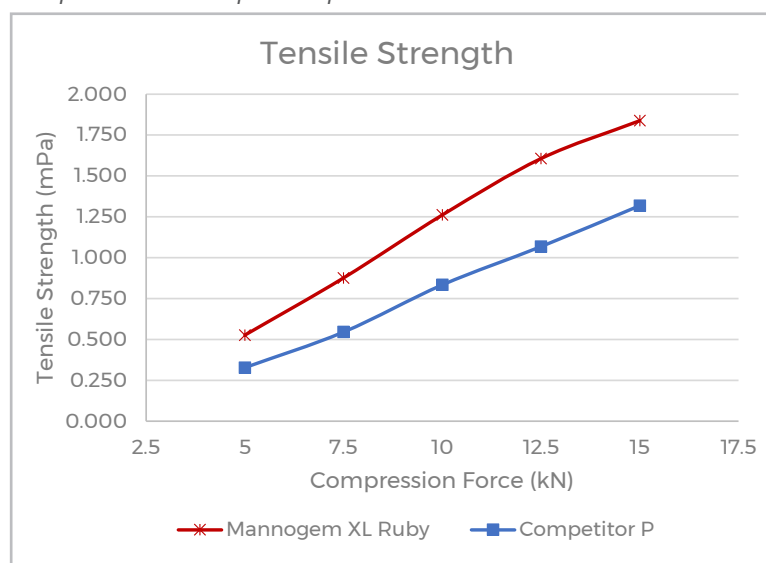
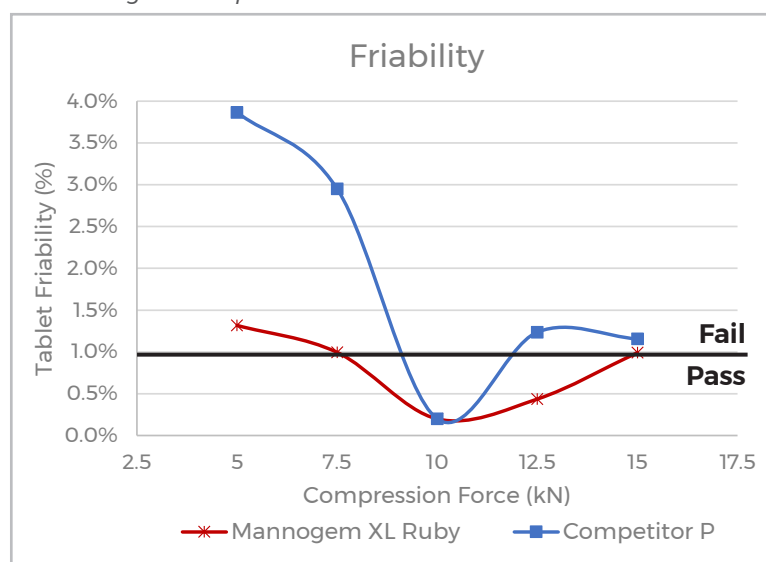
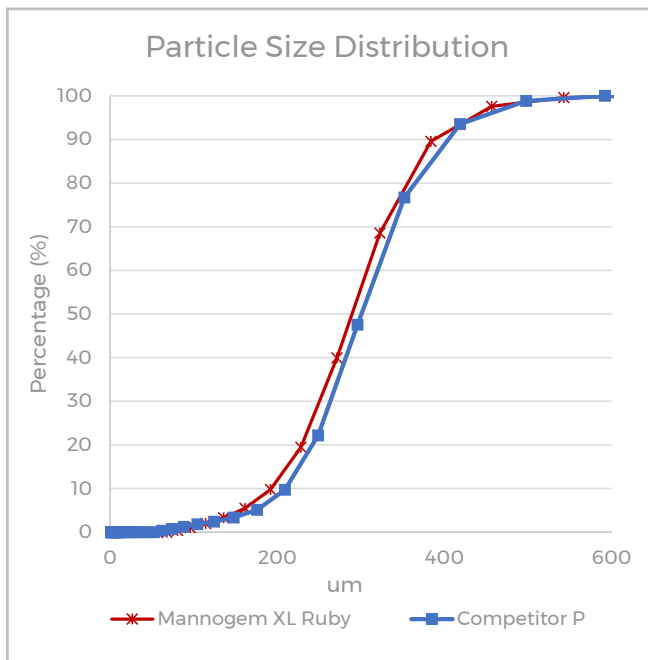


Figure 2: Mannogem XL Ruby Shows Lower Friability Than Competition Over a Range of Compression Forces



Mannogem XL Ruby is a unique combination of material science and application know-how that brings a new tool to solving the challenge of creating patient centric dosage forms. Leveraging inherently favorable characteristics of granular mannitol- more consistent particles, softer texture and pleasant organoleptics- Mannogem XL Ruby can help to promote adherence, particularly among children and the elderly.

Figure 3: Mannogem XL Ruby's Particle Size Distribution Matches That of Currently Available Standard Products



**Explore New & Enhanced Dosage Forms**



**Pleasant Organoleptics for Improved Adherence**



**Increased Operational Efficiency & Speed**



**Improved Formulations, Higher Quality Tablets**

Our technical team is available to answer questions and discuss best practices. Contact us today for a sample.

SPI Pharma

[salesinfo@spipharma.com](mailto:salesinfo@spipharma.com)

@spipharma\_real

@spipharma

[www.spipharma.com](http://www.spipharma.com)

SPI Pharma



All information and statements given in this brochure are believed to be accurate at the time of publication. However, neither SPI Pharma nor any of their affiliates make any representations or warranty with respect thereto, including, but not limit to, any results obtained in the processing of the products by customers or any third party. All information and statements are intended for persons having the required skill and know-how and do not relieve the customer or user from verifying the suitability of information and statements given for a specific purpose prior to use of products. It is entirely the obligation of the customer or user to comply with applicable laws and regulations, and also with all patent or other intellectual property rights of third parties.

SPI PHARMA EXPRESSLY DISCLAIMS ANY REPRESENTATIONS OR WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED, AS TO THE ACCURACY, CURRENCY, COMPLETENESS AND/OR THE MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF ANY INFORMATION CONTAINED IN THIS BROCHURE AND/OR ANY PRODUCT DESCRIBED OR PROMOTED IN THIS BROCHURE, INCLUDING WARRANTIES WITH RESPECT TO INFRINGEMENT OF ANY PATENT, COPYRIGHT, OR OTHER RIGHTS OF A THIRD PARTY. We reserve the right to change product specification and not specified properties of the products without prior notice.