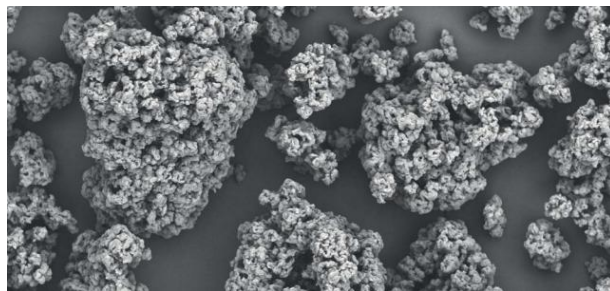


PolyStardone®

*All products comply with Ph. Eur., USP/NF, JP,CP certificate of analysis.

Crospovidone(**PolyStardone®**), is unsurpassed in its performance and versatility as a super disintegrant in formulations. It enables dissolution of the bio-active components as a prerequisite for achieving the desired and required bioavailability.

PolyStardone® has good compressibility and fluidity, which can be applied to wet granulation, dry granulation and direct compression technology



Typical Scanning Electron Micrograph of **PolyStardone®**

Physical Properties	Performance Impact
Non-ionic polymer	No interaction with ionic APIs (i.e. Ranitidine, Cetirizine)
High porosity and hydration	Combines wicking and swelling mechanisms to achieve rapid tablet disintegration at low concentrations(1-5%)
Easy compression and viscoelastic deformation	Increased tablet tensile strength and reduced friability due to high compressibility. Especially suitable for poorly compressible APIs
No gel formation	No gel formation even at higher concentrations (10%), idea for ODTs
Stable in acids and bases	Suitable for a variety of pH sensitive formulations

products	Typical D50(um)	Typical peroxide
PolyStardone®XL	100-120 um	<100 ppm
PolyStardone®XL-10	25-35 um	<100 ppm
PolyStardone®Micro	8-15 um	<100 ppm
PolyStardone®XL Ultra	100-120 um	<40 ppm
PolyStardone®XL-10 Ultra	25-35 um	<40 ppm

*Different particle size is available according to customer's requirement

Case Study

Formulation

Products	Amount(%)
EMCOMPRESS® (Dibasic Calcium Phosphate)	72.75
Spray-dried Lactose	24.25
Crospovidone	2
PRUV® (Sodium Stearyl Fumarate)	1
Total	100

A combination of water-insoluble and water-soluble, medium-compactable matrix was chosen to compare the functionality of **PolyStardone®** PVPP XL and XL-10 against equivalent products.

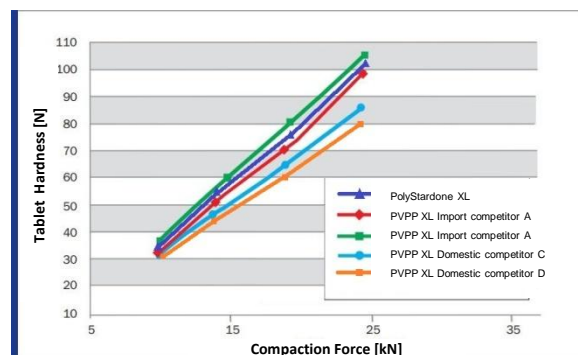
Summary

The case study demonstrates the effectiveness of **PolyStardone®** as a super disintegrant for a tablet matrix containing both water-soluble (lactose) and insoluble (dibasic calcium phosphate), medium-compactable fillers. The performance of **PolyStardone®** was compared to other crospovidone products in the market. We believe that:

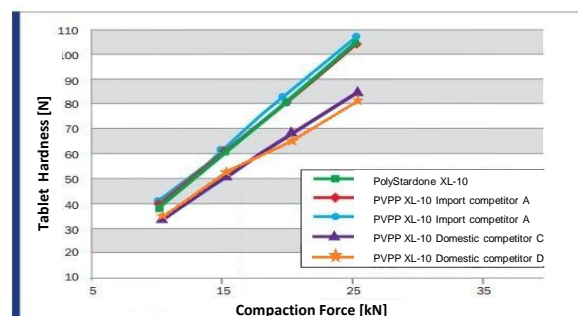
PolyStardone® XL and **PolyStardone® XL-10** have similar performance to import competitor A and import B, and are better than domestic competitor C and D in terms of compactibility and disintegration capabilities.

In this case, **PolyStardone® XL** ensures rapid disintegration regardless of compaction force. Furthermore, **PolyStardone® XL-10** offers additional benefits in increasing tablet tensile strength without a compromise in its disintegration efficiency.

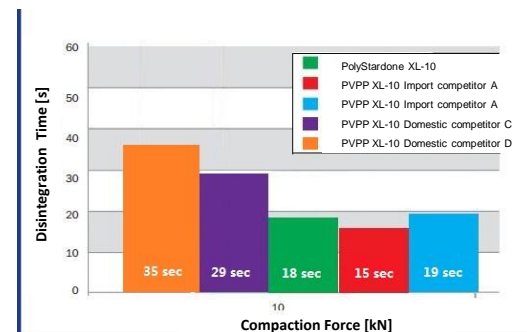
Tablet Data (n=6)



Compression Force Profile of Tablets with Crospovidone XL



Compression Force Profile of Tablets with Crospovidone XL-10



Disintegration Profile of Tablets with Crospovidone XL-10