

Spherical bead core for capsule and tablet formulation

NONPAREIL

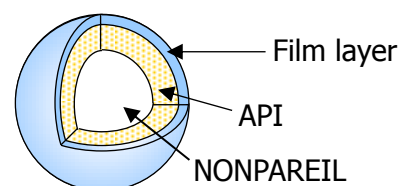
NONPAREIL is a spherical bead core with a narrow particle size distribution and high sphericity. It is an optimal core for controlled release formulation such as enteric release, sustained release and taste masking.

《Features》



High sphericity

Easy calculation of volume and surface dimension to control the film-thickness for API release.



Narrow particle size distribution

Particle size distribution is very narrow in the API layering process.

Layer thickness does not vary in the film layering process and the speed of API release remain stable.

《Lineup》

3 types of NONPAREIL in different ingredients, grading and spherical size as needed in combination with API interaction.

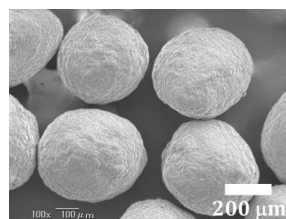
The appropriate type can be chosen in combination with API interaction.

Type	NONPAREIL-103	NONPAREIL-105	NONPAREIL-108
Ingredient	Purified sucrose	Lactose and Microcrystalline Cellulose	D-mannitol
Compendial	Purified Sucrose Spheres JPE	Lactose and Microcrystalline Cellulose Spheres JPE	D-Mannitol JP Mannitol USP
Grade (Particle size)	20-24 (710 - 850µm) 24-32 (500 - 710µm) 32-42 (355 - 500µm)	50-83 (180 - 300µm) 150 (106 - 212µm)	32-42 (355 - 500µm) 200 (150 - 250µm) 100 (75 - 150µm)

NONPAREIL-103

Purified Sucrose Spheres JPE
Drug Master File "NONPAREIL-103" No. 16697

NONPAREIL-103 is a spherical granule which consists solely of purified sucrose.



《Features》



Purified sucrose 100%

Granules have high hardness and wear- resistance. Granules completely dissolveable in water.



Little free water

No or very little influence in stability of API which interacts with water.



Suitable for layering on powder

Layering process efficient due to high sucrose solubility in water.

Grade		20 - 24	24 - 32	32 - 42
Particle size		710 – 850 µm	500 – 710 µm	355 – 500 µm
Loss on drying		not more than 0.2%	not more than 0.2%	not more than 0.2%
Physical property	Bulk density	0.88 g/mL	0.87 g/mL	0.86 g/mL
	Repose angle	30°	30°	32°
	Friability	0.40%	0.20%	0.04%

NONPAREIL-105

JPE "Lactose and Microcrystalline Cellulose Spheres"
Drug Master File "NONPAREIL-105" No. 27536

NONPAREIL-105 are spherical granules made from Lactose Hydrate JP and Microcrystalline Cellulose JP.



《Features》



Mechanically durable for wearing-resistance

Particles have high hardness and excel in wear-resistance.

Less damage during the granulating/coating process for easier handling.



Sugar-free composition

Lower reactivity with API and low calories.



Low cohesiveness

Does not clump during storage.

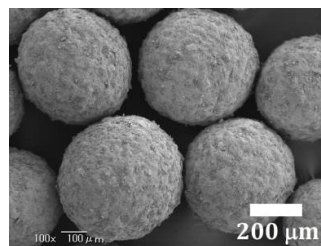
Grade		50-83	150
Particle size		300 – 180 µm	212 – 106 µm
Loss on drying		not more than 5.0%	not more than 5.0%
Physical property	Bulk density	0.76 g/mL	0.73 g/mL
	Repose angle	31°	33°
	Friability	0.29%	0.18%

NONPAREIL-108

D-mannitol JP

Mannitol USP

Drug Master File "NONPAREIL-108" No. 19954



NONPAREIL-108 is a spherical granule consisting of only D-mannitol.

《Features》



100% D-mannitol

Chemically stable and low interaction with API due to less free water.

Completely soluble in water.



Available in small particle grades

100 and 200 grades are effective for capsule miniaturizing, and for ensuring uniformity of minute amounts of API.

100 grade is best recommended for core particles in OD tablets.

Grade		32 - 42	200	100
Particle size		355 – 500 μm	150 – 250 μm	75 – 150 μm
Loss on drying		not more than 0.5%	not more than 0.5%	not more than 0.5%
Physical property	Bulk density	0.77 g/mL	0.72 g/mL	0.72 g/mL
	Repose angle	31°	33°	37°
	Friability	0.28%	0.12%	0.31%