



Powders for filtration media

Metal powder for spin-pack applications

Höganäs is among the market leaders in metal powder for hot polymer filtration. The highest quality of textile fibres are produced with spin-pack filtration media consisting of metal powder. Höganäs produces stainless steel metal powders in large volumes. These powders offer the benefit of resisting pressure and maintaining high porosity under filtration. Based on many years' experience serving the textile industry, Höganäs has designed a special metal powder with high strength and high chemical stability for media in the spinning of polyester and polyamide yarn. The objective is to reach highest tenacity of yarn, by removing contaminants and gels in the melt, by means of consistent powders with lowest possible fines to avoid clogging of nozzles.

Stainless steel metal powder for hard particles and no fibre discolouration

The metal powder is composed of grain particles with a specific irregular shape. This offers the key benefit over mineral sand or glass beads of providing a good tradeoff between porosity volume and active surface area. Höganäs recommends the P-270 grade, a stronger alloy compared to standard stainless steel 316L.

To improve the yarn quality, Höganäs recommends the P-271, a grade nobler and less oxidization-sensitive than standard stainless steel grade during pre-heating of the packs, a must for high-quality nylon production. For high pressure filtration, DP-1 is promoted for its high compaction resistance, thermal stability and its magnetic properties, as a nickel-free metal alloy.

Main product benefits

- » Metal powder filter media for high quality synthetic yarns
- » P-271 grade optimized for nylon yarn production
- » Consistent powder properties from lot to lot
- » Chemical resistance to avoid discolouration
- » No fine particles in the powder

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Grade offering

Alloy	Grade	Fe (%)	Ni (%)	Cr (%)	Mn (%)	Si (%)	Mo (%)	C (%)	Applications	Oxidation resistance
Nickel based	P-271	7.0 -10.0	Bal.	14.0-17.0	-	2.0-2.5	-	Max 0.03	High oxidation resistance, ideal for spinning of nylon yarn	+++++
Stainless steel	DP-1	Bal.	Max 0.9	33.0-37.0	Max 0.5	2.0-4.0	Max 0.3	Max 0.04	High pressure filtration, magnetic	++++
	P-270	Bal.	11.0-13.0	18.0-22.0	0.4-0.7	2.5-3.5	1.0-3.0	Max 0.2	Standard media for polyester yarn	+++
	316L	Bal.	12.0-14.0	16.0-18.0	Max 0.2	0.5-1.0	2.0-3.0	Max 0.03	Ordinary Stainless steel	++
	304M	Bal.	4.0-6.0	17.0-21.0	-	Max 2.0	-	Max 0.20	Polymer Filtrations	++

The best powder offering

During the spinning process, the key is to use the best combination of powder grain sizes for the filter media. Höganäs can offer customers its know-how in powder processes and propose the best selection of powders in according to ASTM and ISO powder standards with a wide range of sieve cuts.

SMART sieve cut packages for spin packs

Based on the main spin pack applications, Höganäs offers the most economic packages. There are four “SMART” packages containing an optimal set of sieve cuts (fine, medium, coarse and wide sieve cut packages).

Alloys		PSD	Available filter sieve cut										
Stainless steel	Nickel based	(µm)	Fine			Medium						Coarse	
P270	P271	-45											
	P271	45-90											
P270/DP1	P271	90-125											
P270/DP1	P271	125-180											
P270/DP1		150-300											
P270		180-300											
P270/DP1		180-425											
DP1		200-300											
P270/DP1		250-600											
P270/DP1	P271	180-250											
P270/DP1	P271	250-355											
P270/DP1	P271	355-500											
P270/DP1	P271	500-850											
P270/DP1		850-2000											
P270/DP1		710-2000											
P270/DP1		300-710											

Tailored powder for spin-pack

Other metal alloy and particle size distribution available on request.

“SMART” packages:

Fine Medium Coarse Wide

Individual sieve cut:

Fine