

# Specification

## Product Specification for Expancel Microspheres

Issue 2018.04 (Replaces 2016.04)

**AkzoNobel**



## Expancel food packaging products

|   | FG52 DU 80 <sup>(i)</sup> | FG92 DU 40 | FG92 DU 120 | FG92 MB 120 |
|---|---------------------------|------------|-------------|-------------|
| <b>Particle size D(0.5):</b> <sup>(1)</sup> | 16–24 µm                  | 10–16 µm   | 28–38 µm    |             |

### Thermomechanical Analysis: <sup>(2)</sup>

|                  |                           |                           |                           |  |
|------------------|---------------------------|---------------------------|---------------------------|--|
| Tstart           | 94–105°C                  | 123–133°C                 | 122–132°C                 |  |
| Tmax             |                           | 168–178°C                 | 194–206°C                 |  |
| TMA-density      |                           | ≤ 17 [kg/m <sup>3</sup> ] | ≤ 14 [kg/m <sup>3</sup> ] |  |
| Density at 140°C | ≤ 25 [kg/m <sup>3</sup> ] |                           |                           |  |

### Residual substances:

|                               |                |                |                |                |
|-------------------------------|----------------|----------------|----------------|----------------|
| Acrylonitrile                 | ≤ 1 [mg/kg]    | ≤ 30 [mg/kg]   | ≤ 30 [mg/kg]   | ≤ 20 [mg/kg]   |
| Methylmethacrylate            | ≤ 400 [mg/kg]  |                |                |                |
| Methacrylonitrile             |                | ≤ 100 [mg/kg]  | ≤ 100 [mg/kg]  | ≤ 65 [mg/kg]   |
| Sodium 2-cyanoethanesulfonate | ≤ 50 [mg/kg]   | ≤ 200 [mg/kg]  | ≤ 200 [mg/kg]  | ≤ 130 [mg/kg]  |
| Sulfite                       | ≤ 2000 [mg/kg] | ≤ 2000 [mg/kg] | ≤ 2000 [mg/kg] | ≤ 1300 [mg/kg] |
| Vinylacetate                  |                |                |                | ≤ 3500 [mg/kg] |
| 2.6-Di-tert-butyl-p-cresol    |                |                |                | ≤ 260 [mg/kg]  |

### Grade of Microsphere

|                                       | FG92 DU 120    |
|---------------------------------------|----------------|
| Concentration of MS [%]               | 65 ± 1         |
| Carrier                               | EVA *          |
| Height of foaming <sup>(3)</sup> [mm] | 90–140 (200°C) |
| Bulk density [g/l]                    | 400–500        |

**Expancel DU = Dry Unexpanded Expancel Microspheres**

**Use the product within three years after production date, if unopened.**

**Expancel MB = Masterbatch with unexpanded Expancel Microspheres**

**Not all products available in all locations. Check local sales office for availability.**

\* EVA = Copolymer of ethylene vinylacetate

- (1) "Particle size of Expancel MS"  
 (2) "Thermomechanical analysis of Expancel MS"  
 (3) "Analytical Method QMS-56"

(i) Expancel FG52 DU 80 is approved by FDA for use in agglomerated cork.

For more information on our microspheres you can contact us at:

[info.expancel@akzonobel.com](mailto:info.expancel@akzonobel.com)

Akzo Nobel Pulp and  
Performance Chemicals AB  
Expancel  
Box 13000  
SE-850 13 Sundsvall  
Sweden  
T +46-60 13 40 00  
F +46-60 56 95 18



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