

# VYBAR™ Polymers For The Candle Industry



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Innovative VYBAR™ polymers provide solutions to your paraffin candle problems, improve candle performance, and deliver value that you will recognize.

VYBAR polymers are hyper-branched polyalphaolefins recognized worldwide for their ability to improve the total performance and value of candles based on paraffin waxes. Five products in the VYBAR polymer family target the candle industry: VYBAR 103, VYBAR 108, VYBAR 260, VYBAR 343, and VYBAR 825 polymers.

The physical properties of VYBAR polymers are distinctive and depend largely on the amount and length of branching. They are typically harder than other polymers and waxes of similar melting points.



## Typical properties of VYBAR polymers

Product	Softening Point (°C) ASTM D36 (modified)	Viscosity @ 99°C (cP) ASTM D3236 (modified)	Penetration @ 25°C (0.1 mm) ASTM D1321
VYBAR 103 polymer	74	345	5
VYBAR 108 polymer	64	350	6
VYBAR 260 polymer	54	357	12
VYBAR 343 polymer	41	130	30
VYBAR 825 polymer	n/a**	795*	n/a**

\* @ 32°C

\*\* Liquid @ room temperature

# Recommended Performance and Usage Rates

## VYBAR 103 and VYBAR 108 polymer

VYBAR 103 & VYBAR 108 is typically used in paraffin waxes with melt points greater than or equal to 58°C. This product is a common component of columns, pillars, tapers, freestanding decorative and votive candles. Addition rate for VYBAR 103 and Vybar 108 polymer typically range from 0.25 wt. % up to 1.0 wt. % in these applications.



Without additive



Contains 0.5% VYBAR 103 polymer

## VYBAR 260 polymer

VYBAR 260 polymer is typically used in paraffin waxes with melt points lower than 58°C. This product is a common component of container, votive, and tart candles. Addition rates for VYBAR 260 polymer typically range from 0.25 wt. % for candle formulations requiring no fragrance up to 2.0 wt. % for high fragrance load formulations.



Without additive



Contains 1.00% VYBAR 260 polymer

## VYBAR 343 polymer

VYBAR 343 polymer is a product developed specifically for mottled candle applications. VYBAR 343 polymer is typically used in paraffin waxes with melt points greater than 58°C. It is a common component of mottled and pillar candles and helps achieve the mottled look and more efficient binding of fragrance oils. Addition rates typically range from 0.25 wt. % up to 1.0 wt. %.



Without additive



Contains 1.0% VYBAR 343 polymer

## VYBAR 825 polymer

VYBAR 825 polymer is liquid at room temperature. It is used to achieve and preserve the mottled look in paraffin wax candles.

# Industry recognized benefits of VYBAR polymers in candle manufacturing

- More consistent product
- Increased plasticity
- Increased hardness
- Increased opacity
- Higher fragrance loads
- Elimination of cracking
- Faster cooling
- Elimination of oil bleed
- Elimination of bubbles
- Uniform dye dispersion
- Fewer rejects
- Reduction in surface flaws
- Lower raw material costs
- Mottling maintenance (VYBAR 343 and 825 polymers)



## General guidelines

Compatible: Paraffin, microcrystalline waxes, and vegetable waxes.

**Contact your NuCera Solutions Specialty Polymers representative or visit [nucerasolutions.com](https://nucerasolutions.com) to learn how our VYBAR polymers can help you achieve better results.**

[nucerasolutions.com](https://nucerasolutions.com)



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