VinPerfect Inc.

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## **Specifications for VinPerfect Closures**

1. Product Description	30x60 mm BVS Roll On Pilfer-Proof Closure
2. Application	Intended for wine bottle closures, non-carbonated beverages with and
	without alcohol.
	• Cold filling from 5° C to 30° C (41° F to 86° F)
3. Mechanical Properties	<b>NOTE:</b> VinPerfect SmartCaps™ only contain VinPerfect Liners. VinPerfect Liners can be identified by the <b>reflective surface</b> of the liner inside the closure. Saranex Liners can be identified by the <b>white surface</b> of the liner inside the closure. The type of liner is also referenced on the label of each box of VinPerfect closures.
3.1 Dimension and Tolerances	Closure dimension: 30x60 mm
	• For use on neck finish according to CE.T.I.E. GME 30.13-02/07 Type 30H
	5.6 ±0.6 g or GPI 1680-03 specifications
3.2 Recommendations for Capping Machine Setting	<ul> <li>Head (Vertical) Load for VinPerfect Liner: 170.1 – 204 kg (375 – 450 lbs.)</li> <li>Head (Vertical) Load for Saranex Liner: 150 – 180 kg (330 – 397 lbs.)</li> <li>Thread Roller Side Pressure: 8.16 – 10.89 kg (18 – 24 lbs.)</li> </ul>
	• Tuck Under Roller Side Pressure: 8.16 – 9.98 kg (18 – 22 lbs.)
	• Tuck Under Groove Depth: 1.0 – 1.5 mm
	Reform Block Diameter: 27.5 mm
	• Reform Depth: 1.0 – 1.6 mm
	• Thread Roller Nose Radius: 0.75 – 0.90 mm
	• Tuck Under Roller Nose Radius: 0.75 – 0.90 mm
	• Angle of Tuck Under Roller: 15° – 20° or 90°
3.3 Standard Value for Torque (dry neck finish)	• Slip Torque after sealing for <u>VinPerfect Liner</u> : 15 – 25 in-lbs. (Small increase possible after 3 days)
	• Slip Torque after sealing for <u>Saranex Liner</u> : 8 – 16 in-lbs.
	• Break Torque after sealing: 10 – 16 in-lbs.
3.4 Internal Pressure Rating	• Suitable for sealing bottles with internal pressure < 4 bar (< 58 PSI)
4. Application Instructions	<ul> <li>Closure, beverage and ambient temperature: 5° C to 30° C (41° F to 86° F)</li> <li>After sealing, bottles must be stored upright for a period of at least 10</li> </ul>
	minutes. This allows for the formation of a robust seal after recovering
	from compression.
	• Storage temperature after sealing 5° C to 35° C (41° F to 95° F)
	• Filling level: ratio headspace / fill volume should be at least 2% at 20° C
	(68° F). In the case of temperature deviation these values will need to be
	corrected respectively, e.g. lower filling level at lower beverage

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5. Screwcap Storage  6. Durability	temperature.  • Use of new glass material is recommended for optimal operation.  • Neck finish must be free of cracks, damage, and other defects including but not limited to: chips, burrs, and "orange peel" texture, which prevent correct sealing.  • It is critical to ensure that the capping head, cap, and bottle are aligned concentrically during application.  • Cap threads must be fully formed and well defined for proper function.  • Capped bottles should not be allowed to clash together or have the closure dented in any way, which may void any performance guarantee.  Roll-on closures are partially formed during the application process; therefore we cannot guarantee every parameter is met. The abovementioned ranges are laboratory confirmed values taken shortly after sealing, and should be used as recommended values only. We do not take responsibility for application defects, since we cannot verify our standard settings are followed during bottling. The values depend on machine properties, and quality of glass bottles. Therefore it is crucial for the bottler to perform test runs to check seal integrity before every bottling, particularly prior to bottling of initial deliveries of VinPerfect Closures. Slip and break torque measurements can be used through the bottling run to monitor for any changes in operating parameters.  • Odorless, dry and UV-protected in closed cardboard boxes at constant storage temperature: 5° C to 35° C (41° F to 95° F)  • Recommended storage temperature 48 hours before processing: 20° C +/-5° C (68° F +/-9° F)
7. Materials 7.1. Liner	<ul> <li>Four-layer laminated liner, containing materials in the following order: a high-density pharmaceutical grade elastomer, PET, an aluminum deposition, PET. The last layer of PET provides a food-grade contact surface.</li> <li>Thickness approx. 23 mm</li> <li>The sealing material used conforms to the FDA US Code of Federal Regulations (CFR 21, § 177.1210c).</li> </ul>

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7.2. Varnishes and Printing Inks	<ul> <li>Thermally hardened (200° C) polyester-phenol resin combination</li> <li>Visual overlaps are possible on side printed closures with certain print structures</li> </ul>
7.3. Inside Lacquer (Adhesive Lacquer/Organosol) and Outside Lacquer	Organosols with slip additives or polyester resin combination in organic solvents
7.4. Printing Inks	<ul> <li>Wet offset printing ink based on alkyd, without heavy metals</li> <li>UV-varnishes possible at side printed closures</li> <li>The inside lacquer used meets the requirements of § 175.300 of US FDA Regulations.</li> </ul>
7.5 Aluminum	Made of aluminum sheet according to EN 541 and DIN EN 573-3
8. Product Identification and Traceability	All products are labeled with following items: liner type, screw cap type (e.g. 30x60), color, graphic used, quantity per carton, production lot number, order number, count of boxes per order.  These items must be quoted in any kind of customer inquiries to guarantee traceability.
9. Packaging	Closures are packaged loosely in cardboard boxes with transparent plastic bags. When packaged on pallets, they are stacked up to 6 layers of 5 boxes per layer, with 1000 pieces per box, or a full pallet of 30,000 units. The cardboard is a single-wall 44 ECT (Minimum Edge Crush Test at 44 lbs. per square inch) that delivers a 275 lbs. burst test rating (275 lbs. per square inch required to rupture or burst the side of the cardboard box).
10. Product Number	L-05SBLK-M (as an example)  - L = Type of cap decoration (Laser, Embossed, Undecorated, Printed)  - 05 = VinPerfect reference to supplier of raw aluminum shell  - SBLK = VinPerfect reference to color (will differ based on color choice)  - M = Reference to oxygen transmission specification (Medium, Medium Plus, Light, Saranex, SaranTin)
11. Quantity	The box content is checked electronically and is packed within positive tolerance. Each box contains 1002 units.
12. Conformity	<ul> <li>Our closures conform to the respective requirements outlined above.</li> <li>We reserve the right to modify these specifications for the purpose of technical progress, and will inform our customers about respective changes regarding applying our closures. Only the latest issue of specification is valid (see date below).</li> </ul>