MALA Verschluss-Systeme GmbH Marienthal 10 D 36448 Bad Liebenstein Germany Phone (+49) 036961 777 0 Fax (+49) 036961 777 50

sales@mala.de



## Specification BVS 30x... DuR

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1. Product Description	BVS 30x DuR Roll On Pilfer Proof Closure
2. Application	Especially for wine, beverages with and without alcohol until 50 Vol% Cold filling from +5 °C until +30 °C (41 until 86 °F) With Saranex- Liner for bottle content storage up to 5 years With Saran-Tin- Liner for bottle content storage from 5 years forward Optionally with PVC- and PVDC- free liner available
3. Mechanical Properties	Closure drawing: BVS/VIN 30x DuR
3.1. Dimensions and Tolerances	Application: on neck finish according to CE.T.I.E. GME 30.13-03/12, type 30H; GPI 1680-03; both regulations with restriction: angle below tuck under bead max. 12° instead 15°
3.2.Weight	BVS 30x44 DuR: 3.6 ±0.6 g/piece BVS 30x55 DuR: 4.3 ±0.6 g/piece
3.3. Standard Value for Torque (Dry Neck Finish)	BVS 30x50 DuR: 3.9 ±0.6 g/ pieceBVS 30x60 DuR: 4.6 ±0.6 g/ pieceOpen torque after sealing:8 - 20 inlbs(0.90 - 2.26 Nm)Small increase possible after 3 daysOvertorque: at least 2 inlbs (0.23 Nm) higher than the respective open
	torque average
3.4. Recommendations for Capping	Head load: 1600 - 1800 N (359.7 - 404.7 lbf)
Machine Setting	Lateral force: 70 - 120 N (15.7 - 27.0 lbf)
	Reform block diameter: 27.6 mm (1.0866 inch)
	Reform depth: 1.5 - 1.8 mm (0.05905 - 0.07087 inch)
	Thread roller nose radius: 0.75-0.90 mm (0.02953 - 0.03543 inch)
	Tuck under roller nose radius: 0.75-0.90 mm
3.5. Design Type	Angle of tuck under roller: 15°-20° or 90° Closure breaks while first opening in top part and pilfer proof ring, which remains on the bottle; DuR: knurling downside; optional DkR: without knurling
3.6. Internal Pressure Strength	Suitable for sealing bottles with internal pressure $< 4$ bar (<58 PSI)
material forming, therefore we cannot guarantee every parameter. Above mentioned ranges are laboratory- confirmed values shortly after sealing and to use as recommended values only.	<ul> <li>Filling level: <i>ratio headspace/ fill volume</i> should be 2% at 20°C (68°F), in case of temperature deviation to be corrected respectively, e.g. lower filling level at lower beverage temperature</li> <li>Use of new glass material recommended for optimal operation</li> <li>Neck finish must be free of cracks and damages (e.g. burrs and "orange peel" texture etc.), which prevent correctly sealing of liner</li> <li>Centrically sealing absolutely necessary</li> <li>Appropriate rolled on thread is crucial for optimal function</li> <li>To ensure operating of our closures it must not be carried out any mechanical forces by plugging, put s.th. over, clamping and fouling as well neither before nor after sealing. Thermal and chemical treatments in connection with screw caps must be checked sufficiently and need to be approved before processing explicit by costumer.</li> <li>Rolled on closures have to be free of clashing together onto the conveyor and friction to the packaging as well.</li> </ul>

The terms and conditions of business and further information can be found at <u>www.mala.de</u>. Reference to other specifications and documents. 1 lbf in = pound = 0.4536 kg; inlbs = pound inches; 1 inlbs  $\approx$  1 lbf in lbf in = pound-force inches; 1 lbf = 4.448 N 1 lbf in = 0.1123 Nm; Temp. [°F]=Temp.[°C]\*9/5 + 32; 1 bar = 14.5 PSI MALA Verschluss-Systeme GmbH Marienthal 10 D 36448 Bad Liebenstein Germany Phone (+49) 036961 777 0 Fax (+49) 036961 777 50



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5. Storage of Caps	Odorless, dry and UV- protected in closed cardboard box at constant storage temperature: +5 until 35°C (41until 95°F); Storage of caps before processing for 48 hours at temperature: 20+/-5°C (68+/-9 °F)
6. Durability	Recommended storage 5 years from closure manufacturing date
7. Materials	
7.1. Liner	EPE sealing disk: hot- foamed polyethylene, closed cell surface, thickness approx. 2 mm, with lamination Saranex, Saran-Tin PVDC- free alternatives: EVOH, TriVin
7.2. Varnishes and Printing Inks	<ul> <li>Offset print <ul> <li>Thermally hardened (200° C) polyester-phenol resin combination</li> <li>Wet offset printing inks based on alkyd, without heavy metals</li> <li>Visual overlaps are possible on side printed closures with certain print structures.</li> </ul> </li> <li>Spray technology <ul> <li>Inks made water-based, BPA n.i.</li> <li>Closures coated with spray technology may have ink pigments inside near to cap opening. These pigments are cosmetic issue only and could arise because of technological reason. They do not have any influence on the function of the closure.</li> </ul> </li> </ul>
7.3. Inside Lacquer (Adhesive Lacquer)	Polyester resin combination, slightly golden-coloured with slip additives; BPA n.i.
7.4. Aluminum	Made of aluminum sheets according to EN 541 and DIN EN 573-3 Alloy EN AW - 8011 A
8. Product Identification and	Each kind of packaging is labelled including following items:
Traceability according to EU Directive 178/2002/EG	manufacturer, closure size and design type, print image, colour, liner, product number, quantity, <u>identity number</u> , <u>control number</u> , <u>manufacturing date</u> , <u>customer specific items</u> <u>These items</u> must be quoted in any kind of customer inquiries to guarantee the traceability.
9. Packaging	Closures packed loosely in cardboard boxes with transparent PE bags, stacked onto wooden pallet up to 5 layers. <u>Quantity per card board box</u> : BVS 30x44 DuR: 1.500 pieces BVS 30x55 DuR: 1.200 pieces BVS 30x50 DuR: 1.300 pieces BVS 30x60 DuR: 1.100 pieces Packaging info sheet
10. Product Number	<ul> <li>3060-16XX-XXXX-XX (for example of BVS 30x60 DuR)</li> <li>12. Digit: Closure diameter (0-99)</li> <li>34. Digit: Closure height (0-99)</li> <li>5. Digit: Aluminum alloy</li> <li>6. Digit: Design type (0-9, A-Z)</li> <li>7. Digit: Liner (0-9, A-Z)</li> <li>8. Digit: Kind of packaging</li> <li>912. Digit: Print image-, embossing- or print design number (0-9999)</li> <li>1314. Digit: Colour variant (0-9, A-Z)</li> </ul>
11. Quantity	The box content quantity is checked electronically and packed with positive tolerance.

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## **Specification BVS 30x... DuR** sales@mala.de Page 3/3 January 2018 12. Quality Parameter and Quality AQL... Acceptable Quality Limits are carried out during production by visual and functional checks acc. to DIN ISO 2859-1 and STLB 10/2013; **Check according to German** Regulations Product unit is one closure: General Check Level I. Code Letter M Critical failures: Failures must not arise, must be avoided. The check during production is to accomplish for error 0 with maximum on technical safety. Critical foreign particles (e.g. rest of punching, metal or compound etc.) Failure Class 1, Main Error A: Errors could strong minimize or impede the intended use of product; AQL 0.1: a) Liner faulty b) Liner missing c) wrong punched closure d) deformed closure; AQL 0.25: e) wrong trade name or logo Failure Class 2, Main Error B: Errors, which could affect the intended use of product marginally only; AQL 2.5: a) Liner faulty without negative effect in sealing properties b) Foreign particles outside Failure Class 3, Secondary Errors: Errors, do not impair the use of product but should not appear; AQL 4.0: a) Scratches outside b) Printing image smudgy, spotted, abrasion visible c) Deviations in colour tone d) Printing image offset greater than 0.8 mm e) Incomplete lacquering STLB 10/2013, DIN ISO 2859-1 13. Conformity Our closures conform to the respective requirements of EU and the North American market (FDA) as well. -> Declaration of Conformity We reserve the right for modifications in sight of purpose of technical progress and inform our costumer about respective changes regarding processing our closures. The latest issue of specification is valid only (see date above).

14. Document		Signature
Established:	C. Seidler Technical Service	d. Sall
Approval:	A. Lange General Manager	J. 5

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