



- During conventional bulk fill-and-finish processing, vials are continuously subjected to side compression (e.g. during depyrogenation, on rotary table) and axial load (e.g. during crimping).
- In addition, vials used in injection devices have to prove their reliability with regards to strength.
- Breakage rarely occurs, but leads to unwanted interruptions and downtimes, resulting in increased manufacturing costs.
- EVERIC® strong provides improved vial strength without changing the glass composition or applying additional chemical treatments.
- An additional "release criterion" has been specifically developed.



FIOLAX® OS ("optimized strength") glass tubing with tighter scratch and fissure specification



Improved forming process (tighter tolerances in critical areas) and specialized inspection (100% bottom inspection via camera and sensor)



Unchanged glass composition – Type I borosilicate glass



"Flawless" processing: No glass-to-glass contact, automated back-end (packaging robot), packaged with separators



Geometry within ISO specification



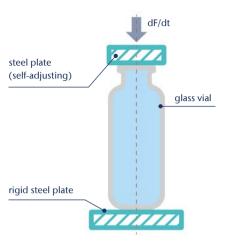
Bottom thickness homogeneity and footprint defined as additional parameters in dimensional specification

Optimized strength

Within existing ISO tolerances with unchanged glass matrix

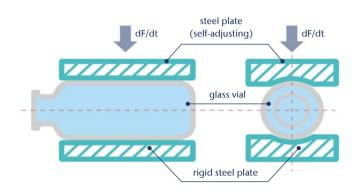


Axial load strength (minimum 2000 N)*



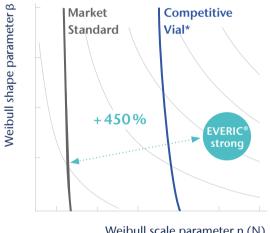
*Statistical in-process testing; AQL 4.0

Side compression strength (minimum 1000 N)*



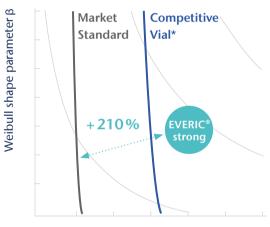
Verifications: Competitive sample testing – superior strength in all aspects

Axial load strength



Weibull scale parameter η (N)

Side compression



Weibull scale parameter η (N)

^{*}Borosilicate vials, untoughened, proposed in the market, competitor to EVERIC® strong

General ordering information											
Quality level	TopL	TopLine with additional release tests									
Packaging	Tray	Tray with divider									
Possible combinations		EVERIC® strong can be combined with EVERIC® pure and EVERIC® smooth									
Palletizing		Standard Euro pallet (1200 x 800 mm) contains 15–27 layers of nine trays each									
Formats	2R	3R	4R	6R	8R	10R	15R	20R	25R	30R	
Pieces per tray	187	187	187	126	126	104	104	77	77	77	

Many configurations are available in small quantities as "Fast Track Articles".

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