

Owens-Illinois, Inc.

COMMON STOCK

On May 7, 2010 and May 20, 2010, Owens-Brockway Glass Container Inc. ("Owens-Brockway"), our indirect, wholly-owned subsidiary, issued and sold \$690,000,000 3.00% Exchangeable Senior Notes due 2015, which we refer to as the "Notes," in a private placement exempt from registration under the Securities Act of 1933, as amended (the "Securities Act"). Upon an exchange of a Note, Owens-Brockway will pay an amount of cash and we will deliver a number of shares of our Common Stock, if any, to the exchange holder for each \$1,000 principal amount of Notes exchanged based on a formula tied to the trading price of our Common Stock. This prospectus supplement no. 3 supplements and amends the prospectus dated October 29, 2010 and the prospectus supplements nos. 1 and 2 dated April 29, 2011 and October 28, 2011, respectively, relating to the resale from time to time by certain selling stockholders of shares of our Common Stock issuable upon exchange of the Notes.

You should read this prospectus supplement no. 3 in conjunction with the prospectus and prospectus supplements nos. 1 and 2. This prospectus supplement no. 3 is not complete without, and may not be delivered or used except in conjunction with, the prospectus, including any amendments or supplements to it. This prospectus supplement no. 3 is qualified by reference to the prospectus, except to the extent that the information provided by this prospectus supplement no. 3 supersedes information contained in the prospectus.

The following table sets forth information, as of April 26, 2012, with respect to the selling stockholders and the number of shares of our Common Stock that would become beneficially owned by each stockholder should we issue our Common Stock to such selling stockholder that may be offered pursuant to this prospectus supplement upon the exchange or redemption of the Notes. The number of shares of our Common Stock issuable upon the exchange or redemption of the full amount of Notes held by each selling stockholder at the maximum exchange rate of 21.0642 shares of our Common Stock per \$1,000 principal amount of Notes and a cash payment in lieu of any fractional share. The exchange rate is subject to adjustment in certain events but is not adjusted for accrued interest. As a result, the number of shares issuable upon exchange of the Notes may increase or decrease in the future and may be in excess of the total amount registered due to sales or transfers of Notes or common stock issuable upon exchange of the Notes by selling stockholders since the date as of which information was provided to us.

No estimate can be given as to the number of shares of our Common Stock that each selling stockholder will own after the sale of any shares under this prospectus supplement, because the selling stockholders may offer all, some or none of their respective shares. No selling stockholder named in the table below owns or will own more than 1% of our outstanding Common Stock.

Stockholder Name	Number of Shares of Common Stock Beneficially Owned Prior to Offering (1)	Number of Shares of Common Stock to be Offered (2)	Percentage Ownership of Common Stock After Offering (3)
Advent Global Phoenix Convertible Fund (4)	16,956	16,956	*
Advent Global Phoenix Investment Grade (4)	30,543	30,543	*
Advent Claymore Enhanced Growth and Income Fund LCM Intl (4)	15,798	15,798	*
Advent Claymore Global Convertible Securities and Income Fund (4)	33,702	33,702	*
Advent Claymore Securities and Income Fund (4)	203,269	203,269	*
Advent Convertible Arbitrage Fund (Cayman II) Fund (4)	52,513	52,513	*
Allianz AGIC Income & Growth Fund (5)	60,664	60,664	*
Allianz Income & Growth Fund (5)	1,369	1,369	*
Altma Fund SICAV p.l.c. in respect of Advent Convertible Arbitrage Sub-Fund			
(INOCAP) (4)	10,300	10,300	*
American Family Mutual Insurance Company (4)	110,587	110,587	*
American Investors Life Insurance Company	42,128	42,128	*

Bankcroft Fund Ltd.	10,532	10,532	*
BMW — Suzuka Annapurna (4)	28,541	28,541	*
Calamos Global Dynamic Income Fund (11)	21,064	21,064	*
Calamos Market Neutral Fund - Calamos Investment Trust (11)	156,928	156,928	*
California Health Care Foundation (4)	30,585	30,585	*
Camden Asset Management, L.P. (Bank of America Pension Plan) (6)	38,968	38,968	*
Camden Asset Management, L.P. (Citigroup Pension Plan) (6)	5,266	5,266	*
Camden Asset Management, L.P. (Equity Overlay Fund, LLC) (6)	13,691	13,691	*
Camden Asset Management, L.P. (Hollowbattle) (6)	148,502	148,502	*
Camden Asset Management, L.P. (John Deere Pension Plan Trust) (6)	8,425	8,425	*
Camden Asset Management, L.P. (Redbourn Partners, Ltd.) (6)	125,331	125,331	*
Camden Asset Management, L.P. (Yawlfarer #1) (6)	15,798	15,798	*
Camden Asset Management, L.P. (Yawlfarer #2) (6)	12,638	12,638	*
Columbia Convertible Securities Fund	94,788	94,788	*
Ellsworth Fund Ltd.	10,532	10,532	*

HFR CA Opportunity Master Trust (4)	6,192	6,192	*
Inflective Convertible Opportunity Fund I, LP	21,064	21,064	*
Inflective Convertible Opportunity Fund I, LTD	42,128	42,128	*
Institutional Benchmark Series Ltd (4)	12,743	12,743	*
Institutional Benchmarks Series-IVAN Segregated Acct	5,266	5,266	*
Insurance Australia Group (4)	46,762	46,762	*
KBC Financial Products USA Inc.	1,685	1,685	*
Lyxor/Inflective Convertible Opportunity Fund	3,370	3,370	*
Manhattan and Bronx Surface Transit Operating Authority (MABSTOA) Pension Plan			
(4)	8,952	8,952	*
Man Umbrella SICAV (10)	57,926	57,926	*
New York City Employees' Retirement System (4)	105,299	105,299	*
NYC Fire Department Pension Fund (4)	17,040	17,040	*
NYC MTA Mastertrust (4)	18,094	18,094	*
NYC Police Pension Fund (4)	35,071	35,071	*
NYC Teachers Retirement Systems (4)	50,469	50,469	*
O'Connor Global Convertible Bond Master Limited (7)	21,064	21,064	*
O'Connor Global Multi-Strategy Alpha Master Limited (8)	157,981	157,981	*
Oyster Global Convertibles (4)	66,562	66,562	*
Partners Group Alternative Strategies PCC Limited Gold Zeta Cell (4)	15,903	15,903	*
Pension Plans of NextEra Energy, Inc. and its Affiliates (4)	55,462	55,462	*
South Dakota Retirement System (9)	42,128	42,128	*
State of Alaska Retirement and Benefits Plan (4)	37,304	37,304	*
Teachers' Retirement System of the City of New York (4)	104,078	104,078	*
The Advent Convertible Arbitrage Master Fund (4)	157,581	157,581	*

^{*} Denotes less than 1%.

(1) This includes shares of our Common Stock issuable upon the exchange of the Notes and shares held by the selling stockholder prior to exchange of any Notes.

(2) The number of shares in the column "Number of Shares of Common Stock to be Offered" represents all of the shares of Common Stock that the selling stockholder may offer under this prospectus supplement. The resale shares may be offered from time to time by the selling stockholder.

(3) This is based on 164,926,375 shares of our Common Stock outstanding on March 31, 2012, and assumes that the selling stockholder sells all of the resale shares offered pursuant to this prospectus supplement.

(4) Advent Capital Management, LLC is the investment manager of the selling security holder and has sole voting and investment power over the securities being offered.

(5) Allianz Global Investors Capital LLC ("AGIC"), is an investment adviser registered under the Investment Advisers Act of 1940. AGIC is an affiliate of Allianz Global Investors Distributors LLC ("AGI Distributors"), a limited purpose broker-dealer registered with FINRA. AGI Distributors was organized for the sole purpose of distributing funds sponsored by AGIC and its affiliates. This selling security holder has delegated full investment authority to AGIC, as investment adviser, over these securities, including full dispositive power. The Chief Investment Officer of AGIC is Horacio A. Valeiras, CFA who, in such capacity, has oversight authority over all portfolio managers at AGIC. To the knowledge of AGIC, the securities listed herein were not acquired as compensation for employment, underwriting, or any other services performed by the selling security holder for the benefit of the issuer.

(6) John Wagner, portfolio manager at Camden Asset Management L.P., has the power to vote and direct the disposition of the securities beneficially owned by each of the funds managed by Camden Asset Management L.P.

(7) The selling security holder, O'Connor Global Convertible Bond Master Limited, is a fund which cedes investment control to UBS O'Connor LLC, its investment manager. UBS O'Connor LLC makes all of the investment and voting decisions. Nicholas Nocerino is the portfolio manager of UBS O'Connor LLC FBO O'Connor Global Convertible Bond Master Limited. Mr. Nocerino disclaims

2

beneficial ownership of the shares held by UBS O'Connor LLC FBO O'Connor Global Convertible Bond Master Limited. UBS O'Connor LLC is a whollyowned subsidiary of UBS AG, a company whose securities are listed on the New York Stock Exchange.

(8) The selling security holder, O'Connor Global Multi-Strategy Alpha Master Limited, is a fund which cedes investment control to UBS O'Connor LLC, its investment manager. UBS O'Connor LLC makes all of the investment and voting decisions. Nicholas Nocerino is the portfolio manager of UBS O'Connor LLC FBO: O'Connor Global Multi-Strategy Alpha Master Limited. Mr. Nocerino disclaims beneficial ownership of the shares held by UBS O'Connor LLC FBO O'Connor Global Multi-Strategy Alpha Master Limited. UBS O'Connor LLC is a wholly-owned subsidiary of UBS AG, a company whose securities are listed on the New York Stock Exchange.

(9) The persons who have voting or investment control over the company's securities that the South Dakota Retirement System owns are Ross Sandine, Danielle Mourer and Anne Doshier.

(10) The Portfolio Managers (Bernadette Behrens, Carsten Oppelt, Michel Fest, Bruno Achermann) of Man Investments (CH) AG, investment manager of Man Umbrella SICAV, have the power to vote or dispose of the shares held by Man Umbrella SICAV.

(11) Nick Calamos, President of Investments and Co-CIO has voting and/or investment power over the shares held by the selling securityholder for whom we manage, pursuant to an Investment Advisory Agreement, Calamos Advisors LLC, not as beneficial owner, but acting solely as an Investment Advisor for this asset.

The term "selling stockholders" also includes persons who obtain Common Stock from the selling stockholders as a gift, on foreclosure of a pledge, in a distribution or dividend of assets by an entity to its equity holders or in another private transaction.

None of the selling stockholders has, or within the past three years has had, any position, office or other material relationship with us or, insofar as we are aware, any of our predecessors or affiliates.

With respect to selling stockholders that are affiliates of broker-dealers, we believe that such entities acquired their Notes and underlying Common Stock in the ordinary course of business and, at the time of the purchase of the Notes and underlying Common Stock, such selling stockholders had no

agreements or undertakings, directly or indirectly, with any person to distribute the Notes or underlying Common Stock. To the extent that we become aware that such entities did not acquire their Notes or underlying Common Stock in the ordinary course of business or did have such an agreement or understanding, we will file a post-effective amendment to the registration statement of which the prospectus and this prospectus supplement is a part to designate such affiliate as an "underwriter" within the meaning of the Securities Act.

Investing in our Common Stock involves risks. Please read "Risk Factors" beginning on page 3 of the prospectus and included in our periodic reports and other information that we file with the Securities and Exchange Commission before investing in our securities.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if the prospectus or this prospectus supplement is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus supplement no. 3 is April 27, 2012.