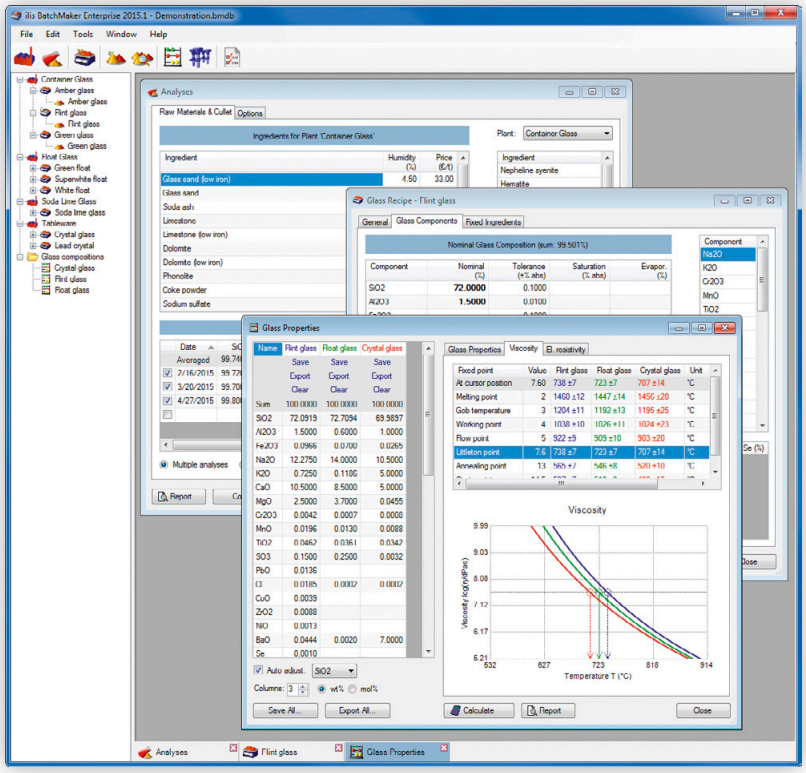
BatchMaker™

Software for the calculation and optimization of glass batches and glass properties

In view of constantly rising raw material and energy prices, batch calculation has great economic importance for the production of glass. This applies especially for the production of mass-produced products such as bottles or float glass. With BatchMaker™, a standard solution for easy and reliable calculation of batch recipes and glass properties is available for the glass industry.



Your Benefits

- Fast and easy calculation of batch recipes
- Reliable prediction of important glass properties
- Quality improvement by stabilization of the glass chemistry
- Minimization of batch and energy costs
- Modern and convenient user interface
- Easy data exchange with laboratory and batch plant

BatchMaker™

Standard – Professional – Enterprise

Features and Variants

General	Standard	Professional	Enterprise
Convenient user interface, fully compatible with Windows 7, 8 and 10	✓	✓	✓
Data storage in integrated database with clearly arranged tree view	✓	✓	✓
Support of metric weight units (kg and t) and US units (lb and ton)	✓	✓	✓
Import and export function for all data in the open XML format	✓	✓	✓
Report generation in HTML format with customizable XSL templates		✓	✓
Detailed online help for all functions and comprehensive sample data		✓	✓
Master Data & Analyses	**Standard**	**Professional**	**Enterprise**
Definition of an arbitrary number of raw materials and cullet types	✓	✓	✓
Entry of the chemical composition for each raw material	✓	✓	✓
Definition of furnaces and glass types for identification of recipes		✓	✓
Definition of redox factor, humidity and price for each raw material		✓	✓
Definition of nominal and limit values and evaporation factors for raw materials		✓	✓
Definition of global loss on ignition (LOI) values for chemical components		✓	✓
Combination of oxides with similar effect upon the glass (e.g. $R_2O = Na_2O + K_2O$)		✓	✓
Definition of melting reactions (e.g. $Na_2CO_3 = Na_2O + CO_2$)		✓	✓
Entry of multiple analyses per raw material with automatic averaging		✓	✓
Defition of multiple plants with separate raw material analyses for each plant			✓
Multilingual names for plants, furnaces, glass types and raw materials			✓
Definition of energy sources with statement of the CO_2 emission factors and prices			✓
Glass Recipes	**Standard**	**Professional**	**Enterprise**
Definition of nominal values and tolerances for chemical components	✓	✓	✓
Definition of amount of glass, mixer capacity or base ingredient (e.g. sand)	✓	✓	✓
Definition of fixed additives (e.g. for refining or reducing agents)	✓	✓	✓
Variable additives as glass percentages (e.g. for fixed cullet percentages)	✓	✓	✓
Variable additives relative to other ingredients or chemical components		✓	✓
Definition of the average furnace load for calculation of the daily batch count		✓	✓
Definition of recipe-related evaporation factors and saturation limits		✓	✓
Multiple raw materials per oxide with definition of the mixing ratio		✓	✓
Definition of specific energy consumption, cullet percentage and energy mix			✓
Batch Calculation	**Standard**	**Professional**	**Enterprise**
Manual entry and alteration of raw material weights	✓	✓	✓
Calculation of the raw material weights based on the glass composition	✓	✓	✓
Calculation of the theoretical glass composition (synthesis) in wt% and mol%	✓	✓	✓
Calculation of the theoretical batch and cullet composition		✓	✓
Calculation of the use and melting loss per chemical component		✓	✓
Calculation of the batch redox number (based on 2000 kg SiO_2)		✓	✓
Calculation of melting losses, glass amounts and glass percentages per raw material		✓	✓
Calculation of batch costs and glass price (total and per raw material/oxide)		✓	✓
Oxide balancing (input per raw material and sources per oxide)		✓	✓
Direct tabular comparison of an arbitrary number of batch recipes		✓	✓
Calculation of the raw material demand and costs for an arbitrary number of batches		✓	✓
Calculation of energy consumption and CO_2 emission and the resulting costs			✓
Glass Property Prediction	**Standard**	**Professional**	**Enterprise**
Glass property calculator for direct comparison of up to 20 glass compositions	✓	✓	✓
Calculation of the viscosity curve and important viscosity fixed points	✓	✓	✓
Calculation of thermal expansion, density, refractive index, dispersion, Abbe number	✓	✓	✓
Calculation of thermoshock resistance, chemical resistance, hydrolytic class, Young's modulus, shear modulus, bulk modulus, Poisson's ratio, molar and specific heat capacity (at 20 and 800 °C), surface tension (at 1300 °C), liquidus temperature, working range index, processing range index, devitrification parameter, relative machine speed		✓	✓
Calculation of the electrical resistivity between 1000 and 1400 °C		✓	✓
User-defined fixed points for viscosity and electrical resistivity		✓	✓
Output of confidence intervals and checking of application limits		✓	✓
Seamless integration of customer-specific calculations		✓	✓

Custom adaptations and special versions are possible on request. No responsibility is taken for the correctness of the information. All information is subject to change without prior notice. Version 10/2015. © 2015 ilis gmbh, all rights reserved.
Product website: www.ilis.de/en/batchmaker.html

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