Available functionalities

	Advance Design 2015 Packages					
	ISV	Standard	Professional Concrete	Professional Steel	Professional Timber	Premium
MODELING ELEMENTS						
• 2D and 3D structures	✓	✓	✓	✓	✓	✓
• Linear elements: beam, S beam, cable, tie, strut, bar	✓	✓	✓	✓	✓	✓
• Planar elements: shell, plate, membrane, plane strain	✓	✓	✓	✓	✓	✓
• Punctual, linear and surface supports; rigid, elastic and T/C type	✓	✓	✓	✓	✓	✓
• Punctual, linear and surface loads, mass, liquid pressure loads, supports displacements	✓	✓	✓	✓	✓	✓
• Windwall elements for loads	✓	✓	✓	✓	✓	✓
• Libraries with predefined elements: portal frames, trusses, linear vaults, planar vaults	✓	✓	✓	✓	✓	✓
• Load case families: Self Weight, Live Loads, Snow, Wind, Seism, Temperatures, Accidental Loads	✓	✓	✓	✓	✓	✓
• DOF's Master-slave link	✓	✓	✓	✓	✓	✓
• Fast definition of haunches for linear elements	✓	✓	✓	✓	✓	✓
• Semi-rigid links between linear elements with user defined nonlinear behavior	✓	✓	✓	✓	✓	✓
• Boundary conditions on planar element's edges	✓	✓	✓	✓	✓	✓
• Compound cross sections.	✓	✓	✓	✓	✓	✓
CROSS SECTIONS LIBRARIES						
• Defined cross sections: concrete, wood, steel	✓	✓	✓	✓	✓	✓
• Cross section libraries: European Profiles, Otua Profiles, UK Profiles	✓	✓	✓	✓	✓	✓
• The "Cross Sections" application for geometrical parameters calculation, including torsion properties (Iw) and shear areas.	✓	✓	✓	✓	✓	✓
• Autodesk Advance Steel cross sections (also available for the "Steel Design" application - steel elements calculation and	✓	✓	✓	✓	✓	✓
MATERIALS LIBRARIES						
• Concrete (EN-206; NFB; STAS 10107/0-90; ACI318M-08, ACI318-08; CSA A23.3-04; NTC2008)	✓	✓	✓	✓	✓	✓
• Steel (EN 10025-2 - 6; EN 10210 -1; EN 10219-1, ASTM; CSA G40.21)	✓	✓	✓	✓	✓	✓
• Wood (EN14374/14279; EN338; NP005)	✓	✓	✓	✓	✓	✓
MESHING ENGINES						
• Automatic Mesh: Delaunay and Grid	✓	✓	✓	✓	✓	✓
• Mesh refining: progressive, local and parametric refining	✓	✓	✓	✓	✓	✓
• Meshing along geometric lines	✓	✓	✓	✓	✓	✓
• T6-Q9 planar finite elemets						
ANALYSIS TYPES						
• Static analysis	✓	✓	✓	✓	✓	✓
• Modal analysis		✓	✓	✓	✓	✓
• Seismic analysis (Eurocode 8; P100/2013; PS 92; PS 92/2010; NTC2008; RPS2011; RPA99-2003; P100-1/2006)		✓	✓	✓	✓	✓
• Nonlinear static analysis 2nd order		✓	✓	✓	✓	✓
• Generalized buckling		✓	✓	✓	✓	✓
• Transient dynamic analysis		✓	✓	✓	✓	✓
• The finite elements calculation can be performed in several steps		✓	✓	✓	✓	✓
• Multithread and multicore finite element engine	✓	✓	✓	✓	✓	✓
CLIMATIC GENERATORS						
• Snow and Wind - EN1991-1-3 and 1-4 (National Appendix for: France, Germany, UK, Czech and Romania), NV2009, CR 1-1-3/2012, CR 1-1-4/2012, NTC2008			✓	✓	✓	✓
AUTOMATIC GENERATOR OF LOADS COMBINATIONS						
• Defined combinations (user models can be post-processed)	✓	✓	✓	✓	✓	✓
• EN1990 (National Appendix for: France, Germany, UK, Czech)		✓	✓	✓	✓	✓
• CR 0-2012		✓	✓	✓	✓	✓
• BAEL91		✓	✓	✓	✓	✓
• CM66		✓	✓	✓	✓	✓
• NTC2008		✓	✓	✓	✓	✓
• ACI/AISC		✓	✓	✓	✓	✓
• CAN/CSA		✓	✓	✓	✓	✓
• Newmark		✓	✓	✓	✓	✓
• Complete management of concomitances between load cases and families (exclusive and forced concomitances)		✓	✓	✓	✓	✓
REINFORCED CONCRETE CALCULATION						
• Theoretical reinforcement area for linear and planar elements, longitudinal reinforcement, transverse reinforcement and minimal reinforcement area			✓			✓
• Real reinforcement calculation for beams, according EC2			✓			✓
• Concrete columns verification using the interaction curves			✓			✓
• Crack opening check on linear and planar elements			✓			✓
• Punching verification on planar elements, according EC2			✓			✓
• Capacity Design for beams and columns, according EC2 and EC8			✓			✓
• Implemented regulations: EN1992-1-1 (National Appendix for: France, Germany, UK, Czech and Romania), STAS 10107, BAEL91, ACI, CAN/CSA; NTC2008			✓			✓
• Theoretical reinforcement area due to torsion effect			✓			✓
• Real deflection calculation for linear and planar elements			✓			✓
• Fire design according EN 1992-1-2 / Section 5			✓			✓
CALCULATION AND VERIFICATION OF STEEL ELEMENTS						
• Buckling length, lateral-torsional buckling length and deflections calculation				✓		✓
• Resistance, stability and deflections verification				✓		✓
• Steel cross section optimization				✓		✓
• Connection Design (module Advance Design Steel Connection / ADSC)				✓		✓
• Implemented regulations: EN1993-1-1 (National Appendix for: France, Germany, UK, Czech and Romania); CM66; AISC; CAN/CSA; NTC2008				✓		✓
• Fire design according EN 1993-1-2				✓		✓
TIMBER DESIGN						
• Buckling lengths, lateral-torsional buckling lengths, deflections design and verification.					✓	✓
• Timber elements strength and stability.					✓	✓
• Sections optimization.					✓	✓
• Available standards: EN1995-1-1 (National Appendix for: France, Germany, UK, Czech and Romania).					✓	✓
• Fire verification according to EN1995-1-2 (§4.2.2 and §4.2.3).					✓	✓
IMPORT AND EXPORT						
• Import: Effel, IFC, SDNF, PSS, CIS2, DXF	✓	✓	✓	✓	✓	✓
• BIM synchronization with GRAITEC compatible software and Revit	✓	✓	✓	✓	✓	✓
• Automatic creation and export of reinforcement drawings to Autodesk Advance Concrete accordingly EC2			✓			✓
REPORTS GENERATOR						
• Predefined calculation reports	✓	✓	✓	✓	✓	✓
• Parametric calculation reports		✓	✓	✓	✓	✓

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MODELING ELEMENTS						
• User-defined calculation reports		✓	✓	✓	✓	✓
• Image insertion	✓	✓	✓	✓	✓	✓
• Automatic update of calculation reports	✓	✓	✓	✓	✓	✓
• Detailed design reports for concrete, steel and timber design			✓	✓	✓	✓
• Export calculation reports to Word, Excel, PDF files	✓	✓	✓	✓	✓	✓
POST-PROCESSING						
• Advanced Technology "Result Memory"	✓	✓	✓	✓	✓	✓
• Post-processing templates that can be used in other models	✓	✓	✓	✓	✓	✓
• Automatic update of calculation reports and saved views	✓	✓	✓	✓	✓	✓
• Result curves	✓	✓	✓	✓	✓	✓
• Interactive Iso regions	✓	✓	✓	✓	✓	✓
• Seismic analysis with eigen mode resultsi		✓	✓	✓	✓	✓
• Nonlinear analysis with step by step results		✓	✓	✓	✓	✓
• Time-History analysis with results which fluctuate in time		✓	✓	✓	✓	✓
• Torsors on walls and groups of walls	✓	✓	✓	✓	✓	✓
• Torsors on linear supports	✓	✓	✓	✓	✓	✓
• Automatic peak smoothing on planar elements		✓	✓	✓	✓	✓
• FEM results clipping		✓	✓	✓	✓	✓