- SAP2000 Ver.16 Level 기능 내용 -

2014년 1월 1일

		20	14년 1월 1일
Physical Modleing Feature	Plus	Advanced	Ultimate
Model joint size limit	Unlimited	Unlimited	Unlimited
All drafting and modle generation features	•	•	•
3D line and area objects	•	•	•
3D solid objects	•	•	•
Datebase of all standard hot rolled steel, aluminum, and cold formed sections	•	•	•
Section Designer for specialized sections	•	•	•
Interactive datebase spreadsheet editing	•	•	•
Analytical Modeling Features	Plus	Advanced	Ultimate
Meshing tools	•	•	•
Automatic mesh generator	•	•	•
Automatic edge constraint technology for mismatch meshes	•	•	•
2D and 3D frame element	•	•	•
Tendon element	•	•	•
Cable element	•	•	•
Cantenary cable behavior	×	•	•
Shell element	•	•	•
Nonlinear layered shell element	×	•	•
Moment curvature curve and PMM interaction surface for arbitrary fiber sections	×	•	•
Coupled spring element	•	•	•
Plane-stress, plane-strain and solid of revolution(Asolid) element	•	•	•
Solid element	•	•	•
Linear link element with stiffness and damping	•		•
Automated panel zone element	•	•	•
Nonlinear link elements: gaps, hooks			•
Nonlinear link elements-plasticity, dampers, isolators	×		
Nonlinear frame hinge element	×		
-	_	Advanced	Liltimata
Loading Features	Plus	Advanced	Ultimate
Point, line, trapezoidal, and area loads	•	•	•
Tributary area load distribution to frames	•	•	•
Automatic code-based wind loading	•	•	•
Open struture wind loading (multiple codes)	•	•	•
Automatic code-based seismic loading	•	•	•
Pattern loading	•	•	•
Applied displacement loading	•	•	•
Moving loads on frame elements	•	•	•
Gravity, pressure and thermal loading	•	•	•
Strain loads, deformation loads, target force	•	•	•
Prestress loads	•	•	•
Wave loading	×	×	•

Analysis Features	Plus	Advanced	Ultimate
Fast advanced solver technology with SAPFire™ analysis engine	•	•	•
Multiple 64bit solver for analysis optimization with unmatched solution capacity	•	•	•
Generalized joint constraints including: diaphragms, plates, rods and beams	•	•	•
Eigen analysis with auto-shifting for ill-conditioned problems	•	•	•
Ritz analysis for fast predominant mode evaluation with missing mass	•	•	•
Multiple response spectrum cases in single run	•	•	•
Modal combination by the CQC, SRSS, GMC or double sum methods	•	•	•
Directional combination by the ABS, SRSS ro CQC3 methods	•	•	•
Linear dymamic modal time history analysis	•	•	•
Linear dynamic direct intergration time history analysis	×	•	•
Frequency domain analysis	•	•	•
Power sepctral density analysis	•	•	•
Buckling analysis	•	•	•
Nonlinear analysis			
Tension/compression-only frame elements	•	•	•
Tension/compression-only soil(area)	•	•	•
P-delta analysis-both small and large P-delta	•	•	•
Static pushover analysis	×	•	•
Wilsom FNA (Fast Nonlinear Analysis) method	×	•	•
Direct integration time hostory	×	•	•
Line and surface multi-linear springs (P-y curves)	×	•	•
Material nonlinearity-frame hinges and links	×	•	•
Geometric nonlinearity-large displacement	×	•	•
Target final geometry iterations	×	•	•
Creep and shrinkage	×	×	•
Staged construction	×	×	•
Staged construction-change property modifiers for frames, tendons, and shells	×	×	•
Staged construction-change section properties for frames, tendons, and shells	×	×	•
Hyperstatic analysis for secondary effects of prestressing forces	•	•	•
Static and dynamic load combos-linear, envelope, absolute, SRSS, range	•	•	•
Design Features	Plus	Advanced	Ultimate
Steel frame design-American and international design codes(19+)	•	•	•
Aluminum frame design	•	•	•
Cold formed frame design	•	•	•
Concrete shell required reinforcement display	•	•	•
Load combinations can be converted to nonlinear load cases for design	•	•	•

Output and Display Features	Plus	Advanced	Ultimate
Deformed and undeformed geometry in 3D	•	•	•
Loading diagrams	•	•	•
Moment, shear and axial force diagrams	•	•	•
Stress contours for area and solid objects	•	•	•
Resultant forces displayed along section cuts	•	•	•
Detailed results with right button click	•	•	•
Virtual work plots	•	•	•
Time history displays of function vs. time	•	•	•
Force vs. deformation plots	•	•	•
Response spectrum curves from time history response	•	•	•
Video of animations and time varying results displays	•	•	•
Capture of graphics to .emf, .jpg, .bmp, .tif	•	•	•
Customized report generation	•	•	•
Quick generation of final printed reports with complete user control	•	•	•
Cover sheet identifying client, project, user and company	•	•	•
Formatted tables of modle definition, analysis and design results	•	•	•
Graphcal displays of the model	•	•	•
All import and Export format			
Micorosoft Access and Excel			
SAP2000 text file (.s2k), Export to Perform3D			
CIS/@-STEP, Steel detailing neutral file (SDNF), AutoCAD (.dxf/.dwg)			
Frameworks, IGES, IFC, Prosteel and other analysis software text file (Import Only)			
System requirements			
Intel Core2Duo, AMD Athlon 64X2 or Better			
Windows XP Sevice pack 2 or later, Windows Vista and 7			
4GB Memory for 32bit and 8GB memory for 64bit			
6GB install the Program (500GB or larger Hard Disk Drive)			



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