

PROTA Structure[®] Suite

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What is ProtaStructure?

A complete solution for

- RC, Steel and Composite Modeling
- Finite-Element Analysis
- Code-based Design
- RC and Steel Detailing

Mostly buildings and building-like structures.

But we see our customers modeling different type of structures as we add new improvements and new features.

Outstanding Competitors

Global Players

ETABS (Buildings)

SAP2000 (General Purpose)

Tekla Structural Designer (TSD) (Buildings)

SCIA (General Purpose, Build)

Midas (General Purpose, Buildings)

Robot (General Purpose, Buildings)

Cype (General Purpose, Buildings)

StaadPro (General Purpose)

Sofistik (General Purpose)

IdeaStatica (Component Design)

TeklaStructures (former XSteel) (Steel Detailing)

Local Players

(Always More focused on Local Practice and Requirements. But somehow limited and people may be looking to replace them.)

- STA4CAD in Turkey
- IDECADStatik in Turkey
- RadImpex – East Europe
- Esteem – Malaysia
- Others

ProtaStructure	Analysis and Design Software (ETABS, Scia, Midas, TSD, Robot, Cype)	General-Purpose Analysis Software (SAP2000, Sofistik, StaadPro)	Detailing Software (Autodesk Advance Steel, TeklaStructures, AllPlan)	Component Design Software (IdeaStatica, TEDDS, Limkon)
Structural BIM Modeling using Physical Objects	Yes	No	Yes	No
Automated FE Analysis Model	Yes and No <i>Analysis model is created as you model the building. Some work needs to be done. Not exactly physical. Hybrid</i>	No <i>Users must create everything from scratch.</i>	Not Applicable	Components only
Code-based Design with detailed reports and seismic checks	Yes <i>Few of them are very detailed seismic design checks are usually not supported (Midas, Scia, TSD, Cype)</i>	No <i>Very limited</i>	No	Components only
Steel Detailing and Quantity Take-Off	No <i>PSteel is the absolute winner. The only competitor is Tekla and Advance Steel</i>	No	Yes <i>PSteel can also do the design. Tekla is the industry leader and people are sick of their pricing and licensing strategy.</i>	Components only <i>Even then, it is very limited and next to nothing.</i>
RC Detailing and Quantity Take-Off	Partial/Weak. <i>PDetails is maybe the best. Also applied code requirements and local practices to detailing. Component design and detailing is supported.</i>	No	No. <i>PDetails can create structural details fully automated. No such dedicated RC detailing software is present. Maybe local software</i>	Components only

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Physical Steel Modeling with Truss, Space Truss, Purlin, Girt, Brace, Steel Domes, Composite Slabs	No	No	No	No
BIM Links (2D/3D DXF, IFC, SAF, Revit, IdeaStatica)	Partially. <i>Few of them support it very well. Some of them not. They don't usually care about 2D/3D DXF. SCIA has good BIM links. We have powerful Revit Link.</i>	No <i>Limited to analytical model only. No proper physical model support.</i>	Not Applicable	Components Only. <i>IdeaStatica has strong BIM Links with almost every software including ProtaStructure.</i>
Structural Loading	Yes <i>PS automatically decomposes and calculates most of the loads. Also, PS has a powerful and visual loading editor. Others mostly do the loading manual and leave it to the user. Ps also has a powerful load patterning feature.</i>	Yes <i>All loading must be done manually.</i>	No	Components Only
Vertical, Lateral, Seismic Analysis	Yes <i>PS has very detailed vertical, lateral and seismic analysis options and tools tailored for ease of use and design.</i>	Yes <i>Tools are usually too general, and user must use extensive engineering notion for modeling and design.</i>	No	No

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Seismic Analysis	<p>Yes</p> <p><i>PS can do analyses such as lateral and vertical EQS, RSA fully compliant to codes. Others are either doing it too generically or too much customization needed.</i></p>	<p>Yes</p> <p><i>All configuration needs to be done manually.</i></p>	<p>No</p>	<p>No</p>
Seismic Checks such as Irregularities, Strong Column, etc.	<p>No</p> <p><i>PS can do the post-analysis checks automatically compliant to codes. Other software usually don't bother with it, and they only do analysis.</i></p>	<p>No</p>	<p>No</p>	<p>No</p>
Assessment, Retrofit, Performance Based Design	<p>No</p> <p><i>PS can do Single Mode/Multi-mode Pushover, NL Time-History Analysis by OpenSees Integration. ETABS and CSI products are especially strong in this avenue. BUT it is only ProtaStructure that has an OpenSees Integration and <u>detailed assessment report</u>. Also, PS has retrofit techniques such as column jacket, retrofit wall, FRP, etc.</i></p>	<p>No</p> <p><i>Only the analysis may or may not be supported requiring a lot of manual input and configuration.</i></p>	<p>No</p>	<p>No</p>

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Foundation Design	Partially and No <i>PS has dedicated foundation module for pad footings, pile caps, strip footings, rafts, piled rafts, retaining walls, lateral pile analysis, etc.</i>	No	No	No
Steel Connections	No <i>PS has extensive connection library with auto-design feature. Also detailing is supported. IntelliConnect designs and inserts constructable connections in seconds. Company standards is also supported.</i>	No	No <i>Tekla is the industry standard in steel detailing, but they don't do steel design, and they don't have IntelliConnect (They have AutoConnect which is not as capable as PSteel)</i>	No
Design Reports	Yes and No <i>PS has visual and detailed reports including code-based checks with an integrated report manager.</i> <i>Few of other software (SCIA especially) is strong in this. They have more step-by-step reports.</i>	No	No	No

Strengths – Internal Factors (What we can change)

- Easy to use and fast platform. Fastest building design and detailing system.
- Prota goes end to end from conceptual modeling to code-based analysis and design, to full design and detailed documentation, on to fabrication. Together with leading BIM coordination.
- Modern user interface with a fluid user experience.
- Latest 64-bit design and true BIM physical modeling technologies.
- World-class seismic design and detailing capabilities. Wide coverage of Seismic Codes.
- Step-by-step calculation reports with formulas and code references.
- Unique capabilities to assess existing buildings for earthquake performance against code requirements. (Single Mode/Multi Mode Pushover, Nonlinear Time-History Analysis, OpenSees Integration)
- Nonlinear Seismic Isolators are supported for final design of isolated buildings.
- Comprehensive Drawing Management in ProtaDetails. All drawings are organized into your title blocks, automatically.
- Automated connection design and industry-leading steelwork detailing. IntelliConnect to design constructible connections with a click.
- Excellent customer experience and technical support services. Recently introduced our new Prota Help Center which is shaped around our years of customer service experience.

Weaknesses – Internal Factors (What we can change)

- Masonry, timber, post-tension,
- Automated Roof wind loads
- Lack of Tapered and Haunched Members
- Compression-Only/Tension-Only Members not supported
- General Analysis Method (Large Displacement) not supported (but let's be honest, not every software supports it, but this analysis is deemed important for steel design by the codes and engineers.)
- We have step-by-step detailed reports. But more transparency is always required (more step-by-step reports coverage)
- We have a wide coverage of design codes, but more design codes and more languages are always required for competition in new markets.
- As of PS2025: lack of complete support for RC and Steel member design according to Eurocode 8 seismic provisions (analysis and irregularities are supported. Better EC8 design support is required)
- Weaknesses in BIM links due to some existing legacy technology
- As of PS2025: Lack of assessment report according to US and Eurocodes. That hinders us tapping into the full potential of assessment features of ProtaStructure in seismic countries.