



APADANA

LSF TECHNOLOGY

Construction Company

Introduction

Apadana Construction Company commenced operations in **2010**, engaging in construction projects across Iran (Mazandaran, Gilan, Azerbaijan, and Tehran provinces). The company aims to advance the development of residential, commercial, industrial, and governmental buildings. With a team of expert designers and engineers, Apadana possesses significant potential to execute large-scale projects domestically and internationally. This technical capability, combined with the founders' risk-taking approach and commitment to localizing industry-specific technologies, positions Apadana as a pioneer in entering new markets and expanding services. Currently, the company focuses on modern **Light Steel Frame (LSF)** structures and operates its own galvanized **LSF profile** production facility, ensuring end-to-end quality control from manufacturing to execution.



Company Objectives

Apadana maintains a long-term vision for modern construction, offering production, design, and construction services through a highly skilled team. Key objectives include:

- Implementing *LSF structures* to reduce building weight and enhance quality.
- Reducing project timelines to drive economic efficiency.
- Leveraging *15+* years of engineering expertise and global architectural innovations to advance the industry.



LSF

Services

- Production of **LSF Structures** Light Steel Frames using premium, standardized materials.
- Engineering Design & Calculations **LSF-based structural design** compliant with global standards (New Zealand methodology).
- **LSF Project** Execution Managed by experienced technical teams.
- Construction of:
 - ✓ Custom villas
 - ✓ Recreational/residential towns
 - ✓ Industrial buildings
 - ✓ Governmental facilities



Apadana's Competitive Advantages

- European machinery for *LSF production* with standard materials.
- Cutting-edge design aligned with global methodologies.
- Professional installation teams.
- Significant reduction in installation time, accelerating overall project completion.
- Fast-track construction execution.
- Earthquake-resistant, energy-optimized buildings.



Benefits of LSF Construction

- **Lightweight Steel Frame (LSF)** refers to galvanized (hot-dip) cold -formed steel frames, offering:
- **30% lower construction costs** due to lightweight structures.
- **Applicable for buildings up to 5 floors.**
- **High thermal insulation (60% energy savings).**
- **Resistance to fire, earthquakes, and moisture.**
- **Demountable/re-assembled structures (with lightweight cladding).**
- **Easy maintenance of structures/MEP systems.**



Benefits of LSF Construction

- 80-120 year lifespan.
- Architectural space optimization.
- Rapid installation (50% faster project completion).
- Simplified electrical/mechanical system implementation.
- Design flexibility for facades (with compliant calculations).
- Eco-friendly, sustainable construction.
- Global certifications + local technical approvals.
- Near-zero structural defects.
- High-safety load calculations (wind, snow, dead loads) using FrameCAD Detailer, FrameCAD Structure, and SAP2000.



Our Workflow Process

1. Initial Consultation & Contract Execution

- Preliminary project discussion, conceptual proposal, and client-approved agreements
- Formal contract finalization

2. Unrestricted Architectural Design

- Creative architectural development with zero constraints
- Final design subject to client approval

3. Regulatory Compliance & Permitting

- Securing all required construction permits
- Preparation of permit documentation:
 - Architectural blueprints
 - Structural engineering schematics
 - Mechanical systems plans

4. 3D Visualization & Client Review

- Immersive **3D** modeling for structural, façade, and interior design verification
- Enhanced construction understanding through virtual walkthroughs



Our Workflow Process

5. Precision Structural Engineering

- FrameCAD-engineered structures (latest software version)
- Micrometer-level design accuracy ($\pm 0.01\text{mm}$)
- Full compliance with:
- International building codes (IBC)
- Local regulatory standards
- Performance advantages:
- **60%** lighter than traditional steel frames
- **120-year** structural service life
- Superior seismic/wind resistance

6. Advanced Manufacturing

- Production on original FrameCAD machinery ($\pm 0.3\text{mm}$ tolerance)
- Material specifications:
- Hot-dip galvanized steel (**180-200 μm** zinc coating)
- Sourced from premier mills (ASTM **A653/A653M** compliant)

7. Quality Integration

- Triad excellence guarantee:
- Precision engineering
- Premium galvanized substrates
- Robotic manufacturing
- Result: Optimal structural integrity with lifelong corrosion resistance

8. Turnkey Project Delivery

- Certified civil engineering installation
- Accelerated construction cycle (**50%** faster than conventional methods)
- Ready-to-occupy building handover



Core Competencies of Apadana Construction Company

- ✓ Monthly production capacity: **12** tons of **9** cm-wide profiles and 20 tons of **15** cm-wide profiles, equivalent to over **24,000** square meters of building construction per month
- ✓ Proven Design Legacy: **15+** years of structural and architectural design expertise across **3,200+** buildings.



Core Competencies of Apadana Construction Company

✓ End-to-End Project Delivery: Successful execution of **350+** turnkey construction projects from inception to completion.

✓ Integrated Specialist Teams: Deployment of seasoned professionals throughout all project phases:

- Design- Structural & MEP installation
- Construction



Earthquake-resistant

Moisture-resistant

Villas

Fire-resistant

SIGNIFICANT REDUCTION
IN INSTALLATION TIME

Industrial buildings

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30% lower
construction costs

80-120 year
lifespan

Design flexibility

Global
certifications

25-38 kg/m²

European machinery

Residential
complexes

60% energy savings

Hotels

Schools

Restaurants

up to 5 floors

Offices
50% faster project
completion