



A&N

www.anstructural.com

**‘Structural engineering is the
invisible hand that holds together
great architecture.’**

Contents

About		The work	
Structural Challenges	04	RCC Structures	16
Architectural Needs	05	PT Structures	21
Safety & Sustainability	06	Special Structures	26
A&N Assurance	07	Steel Structures	31
The Team	08	Facades	36
International Collaboration	11	Peer Reviews	40
Clients	13	Ongoing Projects	44

Structural Challenges



shutterstock.com

Structural engineering is the invisible work of genius that holds together every great human-made structure. At A&N, we push the limits of the discipline to deliver innovative work that is both aesthetically pleasing and functionally excellent.

From large-span slabs without support, for barrier-free spaces, to rapid foundation work for buildings on inhospitable terrain, A&N specialises in solutions for structural challenges of a wide variety.

Architectural Needs



shutterstock.com

Great architectural vision needs great structural support. At A&N, we work closely with diverse architects whose requirements range from the pragmatic to the experimental. We partner them in design, engineering as well as operationalisation.

From sleek RCC structures to large-span cantilever designs, our work instils confidence in architects to be bold in their design.

Safety & Sustainability

Buildings must not only be useful and aesthetically pleasing, but also safeguard against elemental forces such as wind, fire and earthquakes. A&N has helped construct several such structures, from schools to factories, including in earthquake-prone zones.

Sustainability being another key question, we carry out meticulous analyses of methods and material to ensure that our solutions cost less and use fewer resources.

shutterstock.com



The A&N Assurance



shutterstock.com

Since our inception in 2016, A&N has completed over 300 projects worldwide for diverse clientele including developers, architects, residence-owners, airports, factories, public work departments and educational

institutions. In all these projects, we have striven to ensure transparency of process, commitment to schedule and competitive market rates. We will continue to do so — this is the A&N assurance.

The Team.



Ashik RP

Co-founder & Technical Director
BTech Civil, AMIE, CEng,
MSc Structures (UK)

Specialised in steel and composite structures, Ashik directs the technical side of all A&N projects



Mohammed Numaan

Co-founder & Operations Director
BTech Civil, AMIE, CEng,
MSc Structures (UK)

Numaan plans, organises and supervises operations, including managing subcontractors and client-coordination



Rakshit Gupta

BE Civil, MSc Con. Management (UK)
Assoc. Project Manager (Hyderabad)

Rakshit has experience managing large teams and practical knowledge of construction and infrastructure industries



Prof. Nizad

BTech Civil, MTech Structures
Advisory Consultant

Specialised in Concrete Technology and Foundation Engineering, Dr. Nizad was formerly a professor of engineering



Sumesh RS

Project Coordinator
BTech Civil, MTech Structural

Specialised in RC structure analysis and design, Sumesh is skilled with the latest design software



Rashid CP

Project Coordinator
BTech Civil, MTech Structural

Specialised in earthquake-resistant structural design, Rashid is a licensed building engineer



Sarwar Hussein

Advisory Consultant
BSc Civil, MSc Structures (UK)

Specialised in RCC Flat Slabs and Steel Structures, Sarwar is completing his doctoral research in the latest structural innovations

International Collaboration.

International Collaboration with IF Istanbul



Image courtesy of IF Mühendislik

IF is a Turkish structural design and engineering company led by Ihsan Keskin and Ferhat Ugur Bozat, who have previously designed a variety of structures totalling over 2 million square metres. Their work includes seismically isolated structures and steel structures ranging from shopping malls to power projects.

Areas of collaboration:

Concrete structure design • Seismic evaluation and retrofit of existing buildings • Seismically isolated structure design • Performance based design • Tall building design • Fire protection of structures • Prestressed, pre-tensioned and post-tensioned concrete design • Building Information Modeling

Clients.

A&N has completed over 300 projects worldwide with clients including architects and developers, such as:

AG Associates - Udupi

Sheily Haroon Architects - Bangalore

Rainland AutoCorp Pvt.Ltd - Shimoga

Vertex Metal Construction LLC - Abu Dhabi

Structsys - Oman

Aarbee Projects - Udupi

Vyavahar Builders - Udupi

Totaram Builders and Developers - Hyderabad

TerraHome - Bangalore

Gorgeous Architects - Calicut

JB Architects - Calicut

Zero Studio - Malappuram

Barefoot Architects - Malappuram

Arif Associates - Calicut

Shabeer Saleel Associates - Calicut

Ram Biologicals - Calicut

AMF Consultants - Calicut

Blue Clay - Calicut

Ample Space - Calicut

Elegant Group - Calicut

Makh Engineering - Calicut

Morsy Consultants - Calicut

PC Rasheed Associates - Calicut

BN Architects - Malappuram

Reality Engineers - Calicut

Gem Stone - Calicut

D-Code - Calicut

Aarpee Developers - Calicut

Akbar Khan - Calicut

Ujjwal Builders - Bangalore

The Work.

1. RCC Structures

2. PT Structures

3. Special Structures

4. Steel Structures

5. Facades

6. Peer Reviews

1. RCC Structures

Our India International School



Project Details:

Architect: Akbar Khan

Location: Uttar Pradesh, India

Built-up Area: 1, 03, 000 sq. ft.

Status: Ongoing

Highlights:

- G+4 school structure
- RC frame designed as SMRF
- RCC Core walls for lateral stability
- Designed for earthquake zone 4 resistance

Sirajul Huda Arts & Science College



Project Details:

Architect: Abdul Nazar Associates
Location: Kozhikode, India
Built-up Area: 38,000 sq. ft.
Status: Ongoing

Highlights:

- G+2 RCC structure
- Pile foundation on weak cotton soil
- Columns designed as ordinary frame moment
- Designed for earthquake zone 2 resistance

Kizhisseri Auditorium



Project Details:

Architect: Arif Associates
Location: Malapuram, India
Built-up Area: 24,185 sq. ft.
Status: Ongoing

Highlights:

- B+G+1 auditorium for 1000 pax.
- 9m span RCC structure
- Steel roofing for 16m column-to-column span
- Cantilever gallery slope spanning 2m
- RCC column frame for lateral stability
- Designed for earthquake zone 2 resistance

Kottakkal Fish Market



Project Details:

Architect: Two i Architects
Location: Kottakkal, India
Built-up Area: 55,855 sq. ft.
Status: Ongoing

Highlights:

- B+G+2 structure with 2 floors of market area
- Steel roof spanning 18m
- Beams spanning 7m
- Raft foundation due to clayey soil

2. PT Structures

Al Sahwa School, Oman



Project Details:

Architect: Structsys

Location: Muscat, Oman

Built-up Area: 18,000 sq. ft.

Status: Completed in 2018

Highlights:

- 2-storey extension with bridge
- Designed as per Oman Building Code
- PT system for entire beam spanning 15m
- RC frame structure without core walls

Shoukath Commercial Building

Project Details:

Architect: Arif Associates
Location: Kochi, India
Built-up Area: 19,189 sq. ft.
Status: Completed in 2019

Highlights:

- G+4 commercial building
- PT Beams spanning 10m
- Pile foundation



- 3rd and 4th floor slabs supported by floating columns erected from 2nd floor

VKC Storage & Factory



Project Details:

Architect: Arif Associates
Location: Coimbatore, India
Built-up Area: 27,840 sq. ft.
Status: Completed in 2018

Highlights:

- Spread over 27,000 sq. ft.
- Includes office, housing, storage, manufacturing
- Factory floor capacity: 1 tonne/m²
- Factory floor system: PT beams and RCC slab spanning up to 17m
- Located in Earthquake Zone 3
- Storage floor capacity: 0.7 tonne/m²
- Storage floor system: PT beams & RCC slab spanning up to 15m
- Columns designed for SMRF without RCC core walls
- Designed to withstand cyclones

Coorg Arts & Science College



Project Details:

Architect: Bluclay Architects
Location: Coorg, India
Built-up Area: 46,165 sq. ft. for academic block
Status: Ongoing

Highlights:

- G+2 Academic block with flat slabs for plan flexibility
- PT Slab beam spanning 20m for lobby & common area
- PT flat slab up to 9m

3. Special Structures

Lantern House



Project Details:

Project: Zero studio

Location: Kozhikode, India

Built-up area: 4,800 sq. ft.

Status: Completed in 2018

Highlights:

- G+1 special residential project
- 'Floating illusion' achieved by continuous cantilever projection of 1.8m without back support
- Steel structure proposed for cantilever up to 6m with

element thickness of 15cm

- Sit-out area projection of 2.7m with 12cm thickness without back support
- Wind resistant structure

Sewage Treatment Plant



shutterstock.com

Project Details:

Project: 2.5mld Sewage Treatment Plant and Network for Thrissur Municipality
Location: Thrissur, India
Status: Tendering Stage

Highlights:

- Entire treatment plant infrastructure resting on a single-pile raft slab system
- Includes office, grit chamber, partial flume, anoxic equalisation tank, MBBR tank, secondary clarifier, chlorine contact tank, pressure sand filter, activated carbon filter, treated water tank, sludge pump house, centrifuge feed building, polyelectrolyte dosing tank.
- Some tanks are GLS structures, some tanks are concrete structures

Structures for Abu Dhabi Airport Etihad Terminal



Project Details:

Client: Vertex Metal Construction LLC

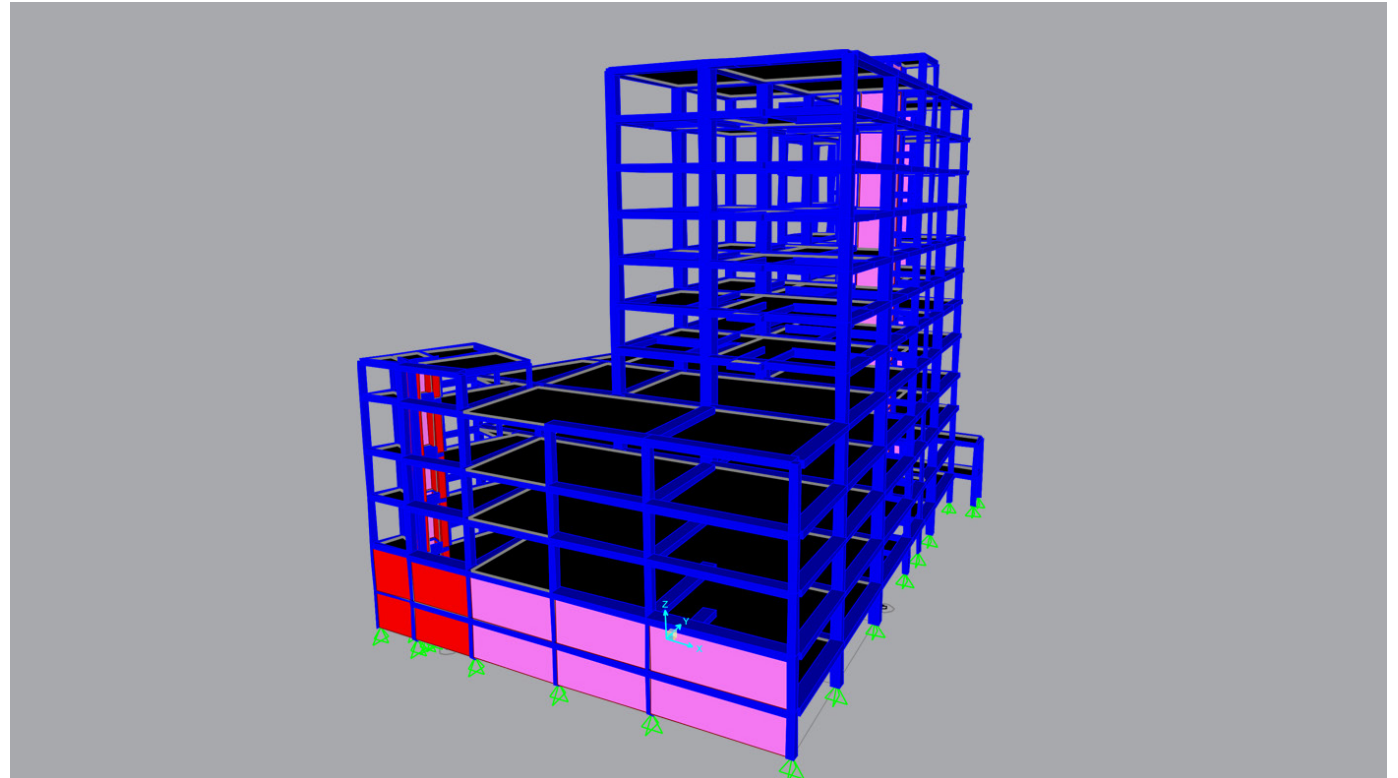
Location: Abu Dhabi, UAE

Status: Completed

Highlights:

- Steel structure vehicle sheds & cycle stands designed to resist wind (140mph)
- Safety columns designed to withstand vehicle crashes
- Compactor frames designed to support compactor beams

Azhinjilam Commercial & Hotel



SAP2000 image

Project Details:

Architect: Arif Associates
Client: Mr. Shihabudheen
Built-up Area: 1, 27, 272 sq. ft.
Location: Calicut, India
Status: Ongoing

Highlights:

- Multipurpose 2B+G+12, including luxury hotel
- Calicut city's first high-rise PT project
- PT slab and beam spanning 10m to enhance construction pace
- RC frame structure designed as SMRF with core walls
- Minimum M40 strength concrete
- Wind resistant
- Pile foundation

4. Steel Structures

Ashok Leyland Service Centre



Project Details:

Architect: GBB Constructions
Built-up Area: 4000 sq. ft.
Location: Bangalore, India
Status: Completed in 2017

Highlights:

- Designed as per Ashok Leyland specifications
- G+1 office space and service area
- Frame structure built using standard steel sections
- Span up to 12.8m

El Monte Mall, Malappuram



Project Details:

Area: 125, 000 sq.ft.

Architect: Gorgeous Architects, Calicut

Location: Malappuram

Status: Ongoing

Highlights:

- Pile foundation proposed due to varying soil profile
- Steel-framed structure using built-up sections (PEB)
- Max beam span: 9m
- 3 basements for parking, 6 floors for commercial
- Lateral stability: Diagonal/Portal bracings
- One of the tallest steel structures in Kerala
- Designed for earthquake zone 3 resistance

PAAM Commercial



Project Details:

Architect: Totaram Builders & Developers

Built-up Area: 16,000 sq. ft.

Location: Hyderabad, India

Status: Ongoing

Highlights:

- PEB - pre-engineered building
- Span up to 12.75m
- Mono-slope structure with mezzanine flooring
- Wind resistant

Thamarassery Super Market



Project Details:

Architect: Totaram Builders & Developers
Built-up Area: 16,000 sq. ft.
Location: Hyderabad, India
Status: Completed

Highlights:

- Frame structure built using standard steel sections
- Single Storey Portal Frame
- Span up to 12.75m

5. Facades

Emirates Mall



Project Details:

Architect: Akbar Khan
Built-up Area: N/A
Location: Edappal, India
Status: Completed in 2018

Highlights:

- Designed to support ACP cladding with LED strips
- Wind resistance up to 85mph

Adhyar Garden



Project Details:

Architect: GBB Construction
Built-up Area: N/A
Location: Mangalore, India
Status: Completed

Highlights:

- Designed to support glass cladding with Aluminium element
- Wind resistance up to 85mph

AM Motors Display Hoarding



Project Details:

Architect: Shabeer Saleel

Built-up Area: N/A

Location: Kozhikode, India

Status: Completed in 2018

Highlights:

- 10m-tall standing display board cladded with fundermax
- Wind resistance up to 85mph

6. Peer Reviews

YARA Mall



Project Details:

Architect: Shabeer Saleel
Built-up Area: 49,187 sq. ft.
Location: Valanchery, India
Status: Completed in 2018

Highlights:

- B+G+3 hypermarket erected using Built Up section
- Span of 8.5m
- Designed for earthquake zone 3 resistance
- Wind resistance up to 85mph

Prince Fawaz Housing Colony



Project Details:

Developer: Dar Al Bayan
Estate Development Co
Built-up Area: 50,000 sq. ft.
Location: Amir Fawaz, KSA
Status: Ongoing

Highlights:

- Completed structural audit for 500 units
- Wind resistance up to 95mph
- Seismic site class C

Kadappadi Auditorium



Project Details:

Architect: Shabeer Saleel
Built-up Area: 20,000 sq. ft.
Location: Kozhikode, India
Status: Completed in 2019

Highlights:

- B+G+1 RCC structure
- Verified for structural stability under gravity, wind and earthquake

Ongoing Projects.



NR Pura School

Location: Shimoga

Architect: AG Bhat



Shanavas Puthanathani

Location: Malappuram

Architect: Shabeer Saleel



Shrisham Apartment

Location: Udupi

Client: Aarbee Developers



Nizaro Commercial

Location: Thamarassery

Architect: Creative Space



Dr. Balakrishnan Residence

Location: Areecode

Architect: Shabeer Saleel



Fish Market at Ottupara

Location: Wadakanchery

Architect: Two i Architect



Fish Market at Athani

Location: Athani

Architect: Two i Architect



Shopping Complex Wayanad

Location: Wayanad

Architect: PC Rasheed & Associates



Al Shahama Hospital & Research centre

Location: Pattambi

Architect: Shabeer Saleel

The A&N logo is a trademark of Ashik and Numaan Structural Consultants © 2020 A&N. All rights reserved.
All images courtesy respective architects/ clients unless otherwise stated.

A&N

A&N Structural Consultants
CD Tower, Kozhikode 04, Kerala, India

+91 8951 115 151, +91 9496 819 691

mail@anstructural.com

www.anstructural.com