The Truss of the Felsted School Dining Hall

**Engineer:** Price & Myers  
**Architect:** Nicholas Hare Architects  
**Location:** Essex, Britain

- Roof pitch: 42°  
- Dead load of the roof: 0.8kN/m²  
- Wind load of the roof: ~0.8kN/m²  

Assume truss span as 10m and truss spacing as 5m

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**Dead Load**

- Turn dead load into joint forces

**Wind Load**

- Turn wind load into joint forces

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**Maxwell diagram under dead load**

**Maxwell diagram under wind load**

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**Axial forces under dead load**

**Axial forces under dead and wind load**

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Compare with SAP2000 results
Case Study

The Truss of the Clovelly Visitors' Centre

Engineer: Price & Myers
Architect: Van Heyningen and Haward
Location: Devon, Britain

Roof pitch: 30°
Dead load of the roof: 0.7 kN/m²
Wind load of the roof: ~1.4 kN/m²

Assume truss span as 10m and truss spacing as 5m

Dead Load

Turn dead load into joint forces

Analysis one portion of the truss

Maxwell diagram of this portion under dead load

Axial forces under dead load

Combination of axial forces (dead load + wind load)

Axial forces under dead load

Wind Load

Turn wind load into joint forces

Analysis portions of the truss

Maxwell diagram of the left portion under wind load

Maxwell diagram of the right portion under wind load

Axial forces under wind load

Axial forces under dead and wind load

Compare with SAP2000 results
The Truss of the Blaenau Ffestiniog Sports Hall

Engineer: Price & Myers  
Architect: David Lea  
Location: Gwynedd, Wales

Roof pitch: 30°  
Dead load of the roof: 0.75kN/m²  
Wind load of the roof: ~0.85kN/m²

Assume truss span as 10m and truss spacing as 5m

Dead Load

Wind Load

Turn dead load into joint forces

Turn wind load into joint forces

Maxwell diagram under dead load

Maxwell diagram under wind load

Axial forces under dead load

Axial forces under wind load

Combination of axial forces (dead load+wind load)

Compare with SAP2000 results

Axial forces under dead load

Axial forces under dead and wind load