RAILWAY BRIDGES
References

Caboters Viaduct, Spain
Detailed Design

Characteristics: Overall length: 422 m
Main Span length: 47 m

Railway Bridge
Can Fares Viaduct, Spain
Detailed Design

Railway Bridge

Characteristics: Overall length: 100 m
Span lengths: 27.5 + 45 + 27.5 m
Casinyola 1 Viaduct, Spain
Detailed Design

Railway Bridge

Characteristics: Overall length: 77 m  
Span lengths: 20 + 37 + 20 m  
Cross-section: Prestressed Concrete Box Girder
References

Casinyola 2 Viaduct, Spain
Detailed Design

Railway Bridge

Characteristics: Overall length: 127 m
Span lengths: 26.5 + 37 + 37 + 26.5 m
Cross – section: Prestressed Concrete Box Girder
References

Cinyana Viaduct, Spain
Detailed Design

Railway Bridge

Characteristics: Overall length: 96 m
Span lengths: 15+22+22+22+15 m
Cross-section: Hollow core slab
Fluvia Viaduct, Spain
Detailed Design
Railway Bridge

Characteristics: Overall length: 835 m
Typical span length: 60 m (Max. span: 70 m)
Cross – section: Prestressed Concrete Box Girder
Santa Ana Viaduct, Spain
Detailed Design

Characteristics: Overall length: 220 m
Span length: 35+45+60+45+35 m
Cross – Section: Prestressed Concrete Box Girder
References

Espinazo Viaduct, Spain
Pier Design

Railway Bridge

Characteristics: Overall length: 870 m
Typical Span length: 50 m
High earthquake risk area
References: Salto del Carnero Viaduct, Spain
Pier Design

Railway Bridge

Characteristics:
- Overall length: 830 + 730 m
- Span length: 30 m
Riyadh Metro Line 3 Viaduct, Saudi Arabia
Piers Foundations Design

Detailed Structural and Geotechnical Design of 600 piers foundations. Footings, piles, micropiles,...
References

Bridges and Viaducts

Doha Red Line Metro Viaduct, Qatar
Detailed Design

Railway Bridge

Detailed Structural and Geotechnical Design of 3 viaducts:
• 20 + 32 + 32 m span length
• 28 + 24 + 24 m span length
• 33 + 62.5 + 55.4 + 33 m span length with a variable depth deck
Mexico City-Toluca Interurban Rail Project, Mexico
Detailed Design

Railway Bridge

Detailed Structural and Geotechnical Design of a continuous viaduct, being 46 m the longest span. Decks formed by 2 to up to 4 U precast prestressed concrete beams.
Viaduct for Section 4 of the Mexico City-Toluca Interurban Rail Project, Mexico
Design Checking

Continuos prestressed concrete viaduct (1,448 m long) with a cantiléver erected central arch (60 m high; 128 m span). Bridge deck is 11.5 m wide, bearing 2 tracks.
Viaduct for Section 2 of the Mexico City-Toluca Interurban Rail Project, Mexico
Design Checking

Railway Bridge

Continuos prestressed concrete viaduct (3,865 m long) with extreme spans of 44 m + intermediate spans of 55 m. Span by span by mobile falsework construction method.
Extradosed Bridge over Pereira Risaralda’s Calle 13, Colombia
Design Checking

Extradosed reinforced concrete bridge (70 m length):
• 35 + 35 span length
• 15.3 m width, allowing for 3 traffic lanes and pedestrian access
Viaducts for Riyadh Metro, Lines 4 & 6, Arabia Saudi Design Checking

Prestressed concrete deck. Variable spans from 40 m to 96 m, curved and straight. Various construction methods: precast segments, precast beams+upper slab, launching girder and balanced cantiléver method.
Aragal Viaduct, Spain  
Design Supervision

Railway Bridge

Characteristics:  
Overall length: 533 m  
Span length: 39+4×40+6×36.4+2×45+25.6 m
References

Bridges and Viaducts

Terri Viaduct, Spain
Design Supervision

Bridges and Viaducts

Railway Bridge

Characteristics: Overall length: 680 m
Span length: 37.5 + 3x45 + 4x40 + 7x45 + 32.5
Farga Viaduct, Spain
Design Supervision

Railway Bridge

Characteristics: Overall length: 335 m
Span length: 32.5+6x45+32.5 m
Cross – Section: Prestressed Concrete Box Girder