

NIMES ARENA
Nimes, Gard, France
1989



» *photographer: G.Fessy*

» *NAC-01-ESS-LIN-Internal view of the Nimes arena*

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Nimes, Gard, France

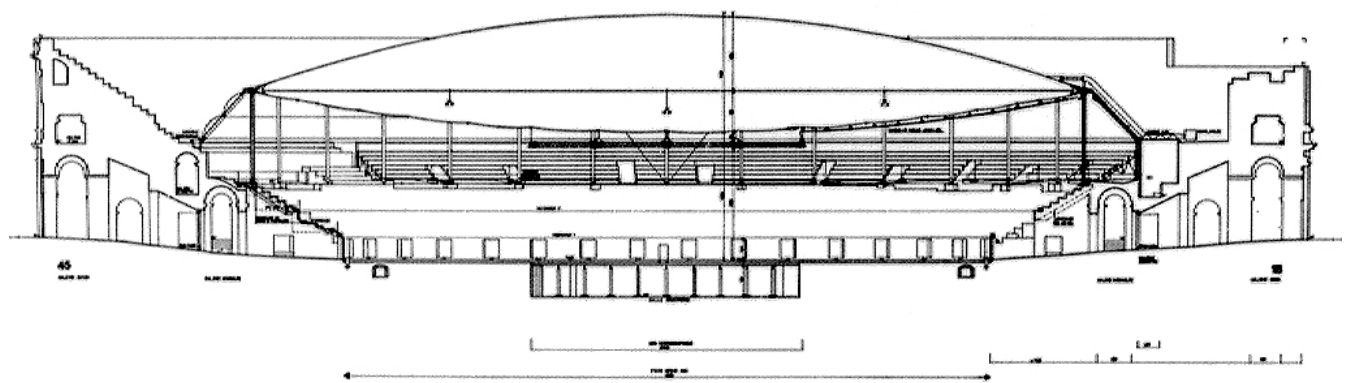
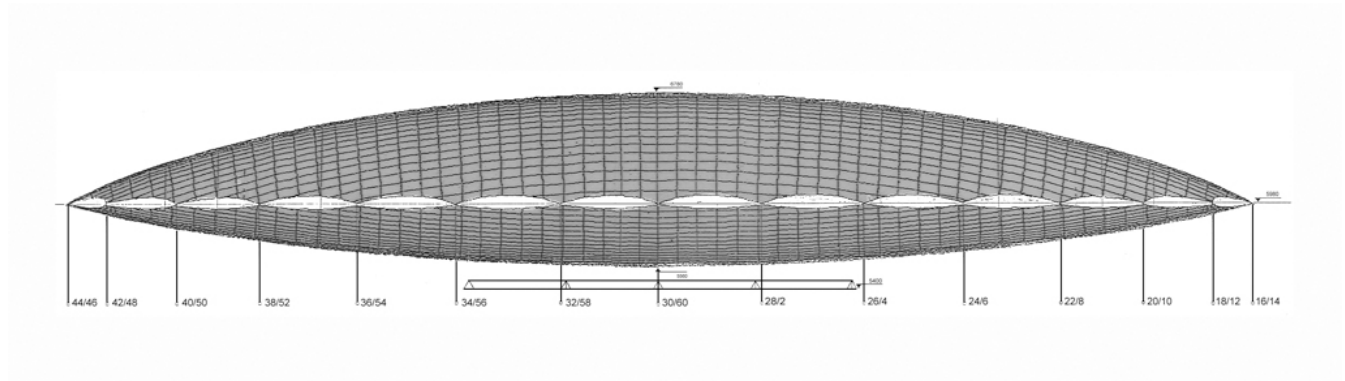
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» *image: LIN*

» *NAC-02-ESS-LIN-UrbanStructure around the*

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» *image: LIN*

» *NAC-03-ESS-LIN-Cross ection of the Nimes arena and Construction of the lens for the roof*

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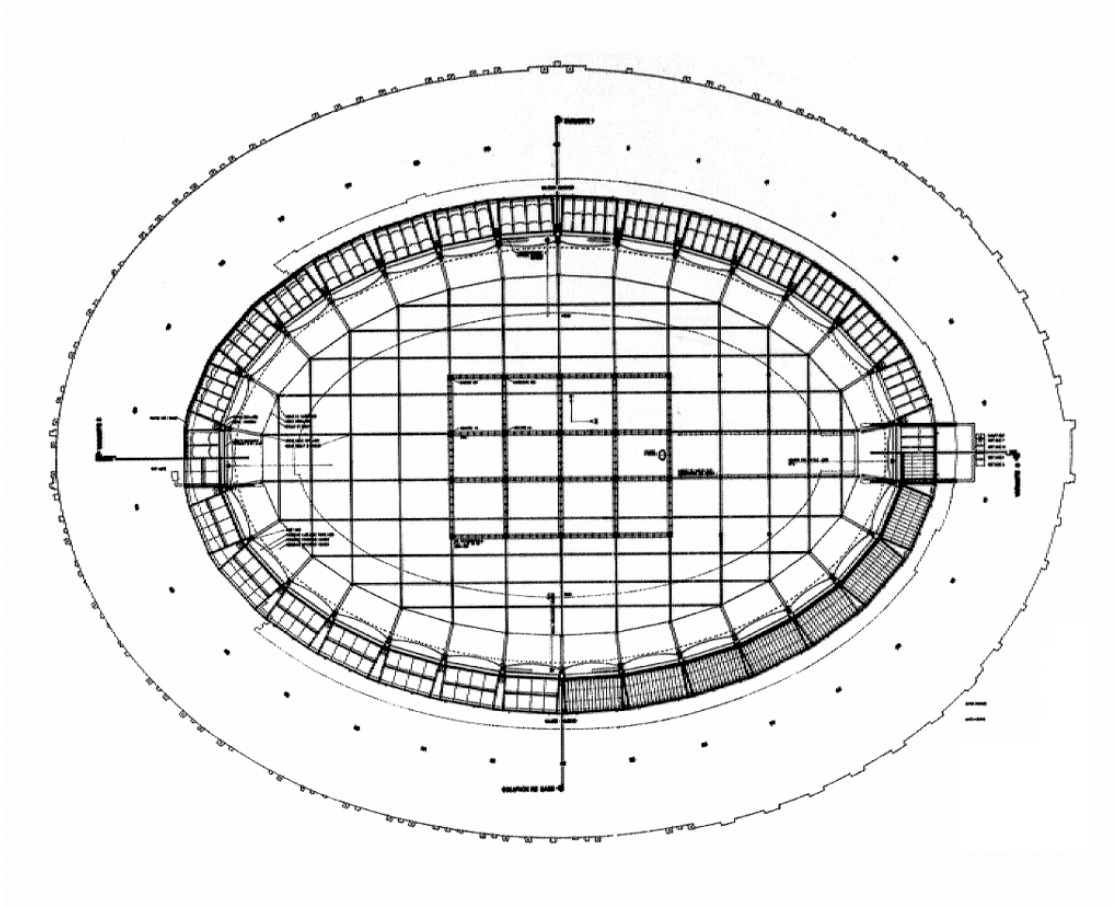
» *image: LIN*

» *NAC-04-ESS-LIN-Floor plan of the roof structure*

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» *image: LIN*

» *NAC-05-ESS-LIN-Floor plan of the roof structure*

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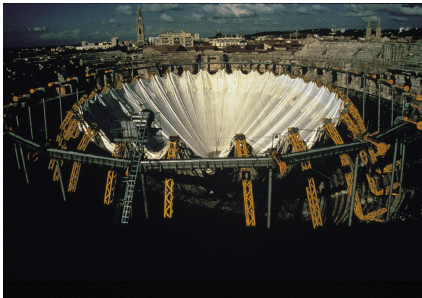
1989



» *photographer: G.Fessy*

» *NAC-06-ESS-Transparency through the structure*

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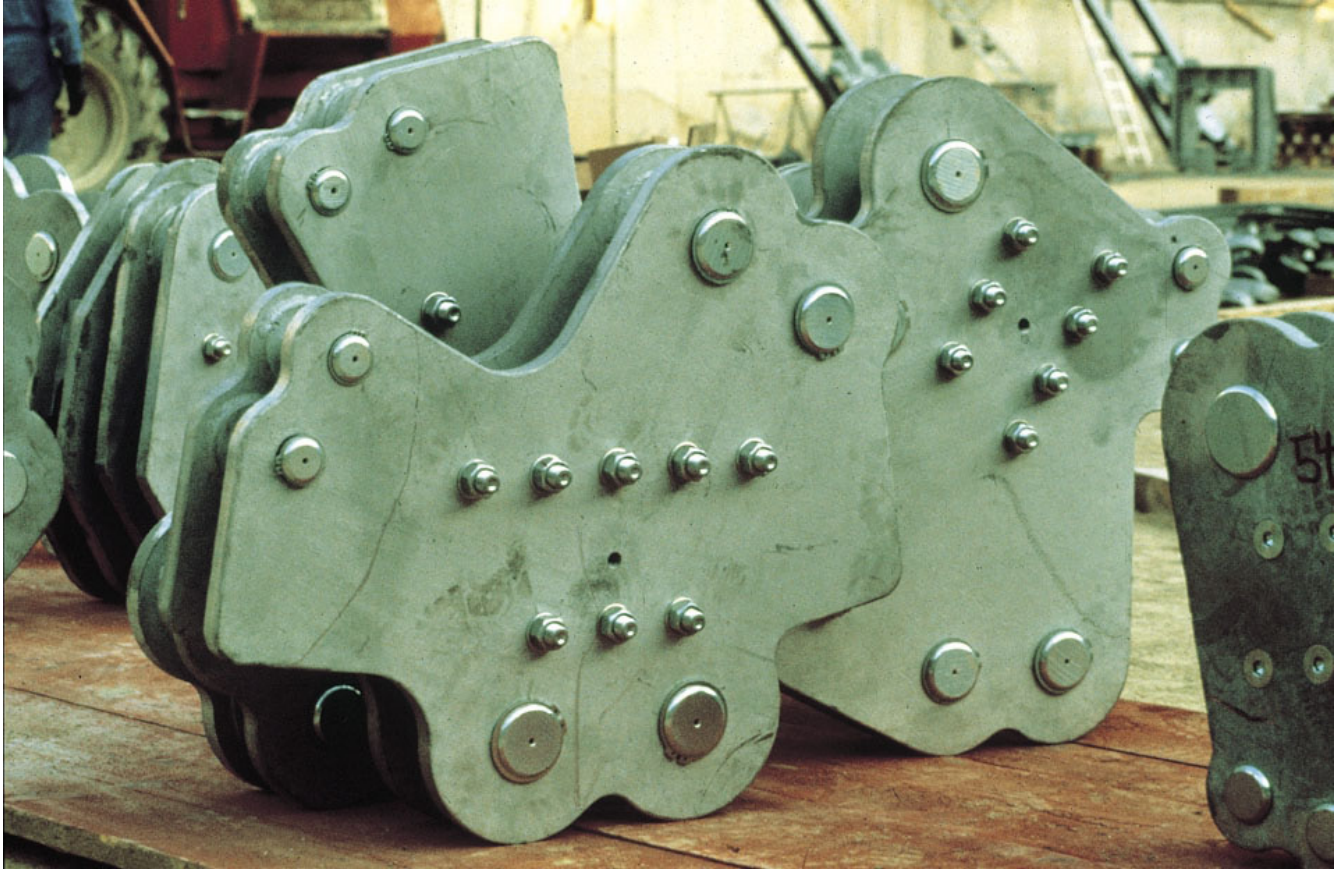
» *photographer : G.Fessy*

» *NAC-07-ESS-LIN-Installation of the canopy over the arena*

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» *photographer : G.Fessy*

» *NAC-08-ESS-LIN-Detail of the connecting plate*

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» *photographer : G.Fessy*

» *NAC-09-ESS-LIN-Process of inflation of the pneumatic membrane*

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» *photographer : G.Fessy*

» *NAC-10-ESS-LIN-Internal View after installation*

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» *photographer:G.Fessy*

» *NAC-11-ESS-LIN-New roof amidst the surroundings*

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ROMAN ARENA

In December 1988 the ancient arena of Nîmes is for the first time covered with temporary roofing – a lens-shaped pneumatic form commissioned for winter-season use. Meant to be assembled and dismantled twice a year, the lightweight structure keeps careful distance between the ancient walls and the new roofing. The discreet solution, characterized by its very low section, from the exterior hardly renders visible the fact that within the old roman walls something has changed. Inside the arena, the shape of the new roof does not limit the natural upward lift of the ancient elliptical theatre's seating.

CATALYST FOR A MIXED CITY

A unique feature is the simultaneous expression of concentration and connection, which realized the Roman amphitheater in the city body. No contemporary stadium has a similar urban character. The big event of our times complexes are based almost always on the principle of open and segmented city in the twenties. The amphitheatre of Nîmes, however intended, a principle of entanglement with the urban structure and embodies the current model of the mixed city.

FORM

Running counter to an assimilative language, an autonomous and independent element within the ancient arena's cavea refrains from interacting, keeping a significant distance from the structure; the result: a lenticular pneumatic form, floating freely above the elliptical area of the arena. The lower convex lens enclosing not like a lid, but somehow retaining a lightness, open to the sky.

LENS

The roof consists of two translucent polyester tarpaulins of 4200 m² that create an air cushion 13 m high.

Both membranes covering the arena are made of a PVC-coated polyester fabric; the lower membrane rests on a network of cables to reduce its interior curvature.

PLAN

The structure itself consists of an elliptical steel compression ring with hinged cushioned membranes. This highly flexible compression ring is bowed and stabilized simultaneously. The self-stabilizing steel ring, similar to a wheel hub, rests on 30 supporting metallic columns

PERMEABILITY

The roof and the steps are connected by a transparent and adjustable cimbia composed of polycarbonate sheets mounted on aluminium supports, allowing the public inside to fully appreciate the monument. The cimbia was carefully researched down to the last detail as regards to shape, curvature, assembly and storage. The hollow box girders have a wingspan of 6.35 meters, with a height of 150 mm and a width of 450 mm. The principle was based on slat prototypes developed by Merlo, a Turin company specializing in sun protection systems.

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ASSEMBLY

The final state has not only doubled the usual optimization of shapes in terms of function, aesthetics and economics, but other factors also come into play, such as handling and periodic adaptability.

Weight and dimensions are required to be in the consideration of every detail not only lifted variable structural calculations, but also real values that are transported at regular intervals, and connected.

COMPONENTS

All components are designed and factory-manufactured to the nearest millimeter before being assembled on site, without the possibility of an on-site adjustment.

These requirements help further our approach in seeing architecture not purely as an explicitly formal activity, but as a system of complex interactions between dynamic states and singular parts.

WEIGHTLESSNESS

Despite the roof's "weightlessness", a powerful shape persists, completely lacking in nostalgic elements, an air cushion confronting the monolithic stone. This architecture is not a frontal attack against established patterns and ruins but develops out of "practical knowledge" which makes a critical contribution towards the enduring life of this historical monument. A crowded urban vista is met by the weightlessness of an interior intervention enabling ancient facilities a modern day use.

INTERIOR

The new roof guarantees maximum illumination for the auditorium, offers both technical and acoustic insulation for the complex, and provides air circulation via the rotating sheets of the inclined cimbia façade.

TEMPORALITY

A winter flight over Nîmes reveals a glowing lens exposed and hovering above the amphitheatre. However, while the stone skeleton of the arena rests hulking and immobile, the NAC shelter is temporary and reversible. Besides the founding boards, in the summer months no element of the 6,000 m² construction remains. Contrary to its first impression this massive structure is not final and immutable, but carries within itself the principle of its cyclical addition and removal.