VAULTED STRUCTURES

EQUILATERAL GROINED VAULT

At the request of the NGO Volontariat, the Auroville Earth Institute has been building a showroom in Pondicherry with the help of a local contractor, Mr. Kanu Mistry. Volontariat is a social organization doing voluntary work in Pondicherry for the most underprivileged people since more than 43 years. Among their social activities, they take care of the education of poor children from crèche to craft apprenticeship.

For many years, all the handicrafts done by these youth were not displayed at their advantage in a proper place. Therefore it was necessary to show the quality of these crafts in a suitable place. This showroom has been built in the premises of Shakti Vihar School, run by Volontariat and where a few handicrafts are being taught and done. This School had been built between 1992-1994 by the Auroville Earth Institute and Mr. Kanu Mistry.

The concept for the roof of this showroom is based on an equilateral groined vault, so as to display these crafts in a beautiful and ample space. The foundations and walls were executed, early 2004, by the contractor Kanu Mistry. The vaulted structure has been built free spanning (without support) by the team of the Auroville Earth Institute in about 37 days by 6 to 8 masons. It was the occasion to train some local unemployed youth, labour and masons from Pondicherry area.

The finishes were completed beginning of November 2004. The showroom has been inaugurated by Mme Madeleine De Blic, founder, soul and spirit of Volontariat, and Mr. Balakrishnan, heart surgeon who takes care of the children of Volontariat.
Laying a block in the groin
Shaping a block for the bond pattern
Placing a block in the corner
Horizontal courses rising
Limit of the vertical courses
Starting the vertical courses by steps
Block pattern to prepare the keystone
Keystones laid on the vertical courses
Building the vertical courses
Laying a keystone, with the slab on the side

Adjusting a slab at the keystone

Laying keystones

Adjusting a blocks at the groin

Bond pattern at the groin

Bond pattern at the groin with vertical and horizontal blocks
Laying horizontally a block at the groin
Laying vertically a block at the groin
Adjusting a vertical block at the groin
Bond pattern at the groin
Bond pattern at the groin with vertical and horizontal blocks
Filling earth concrete at the steps of the keystone
Groined vault near completion
Complexity of the bond pattern with blocks and keystones
Laying the last keystones