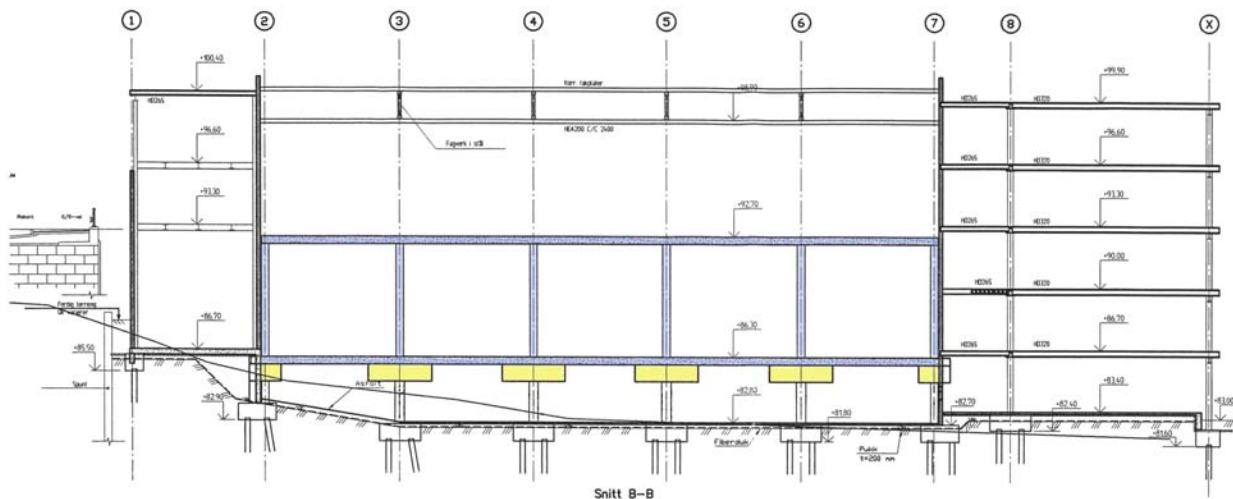


Isolating an Entire Microchip Wafer Fabrication Facility Building at Sintef Using Low Frequency Pneumatic Isolators

Oslo, Norway--When Sintef decided to construct their microchip manufacturing and development facility, they discovered the site they were to build on was on soft clay an close to subway and road traffic and hence, subject to high vibration levels.

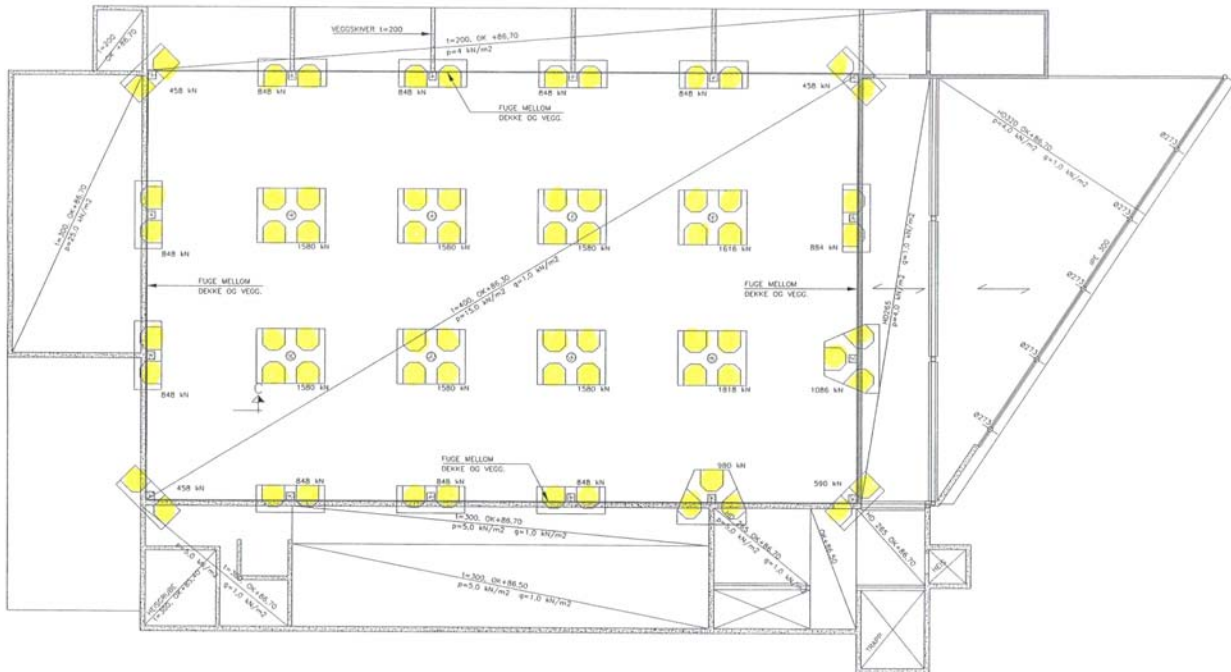
To reduce the structure-borne vibration, piles were driven through the clay to bedrock. On each pile, a pier was formed at the basement level to support the first floor of the fabrication section of the facility. In between piers and the first floor, sixty-six Fabreeka® PAL1000 pneumatic isolators were installed.

The pneumatic isolators support and isolate only the first and second floors of the fabrication section of the facility – an amazing eight million (8,000,000) pounds.

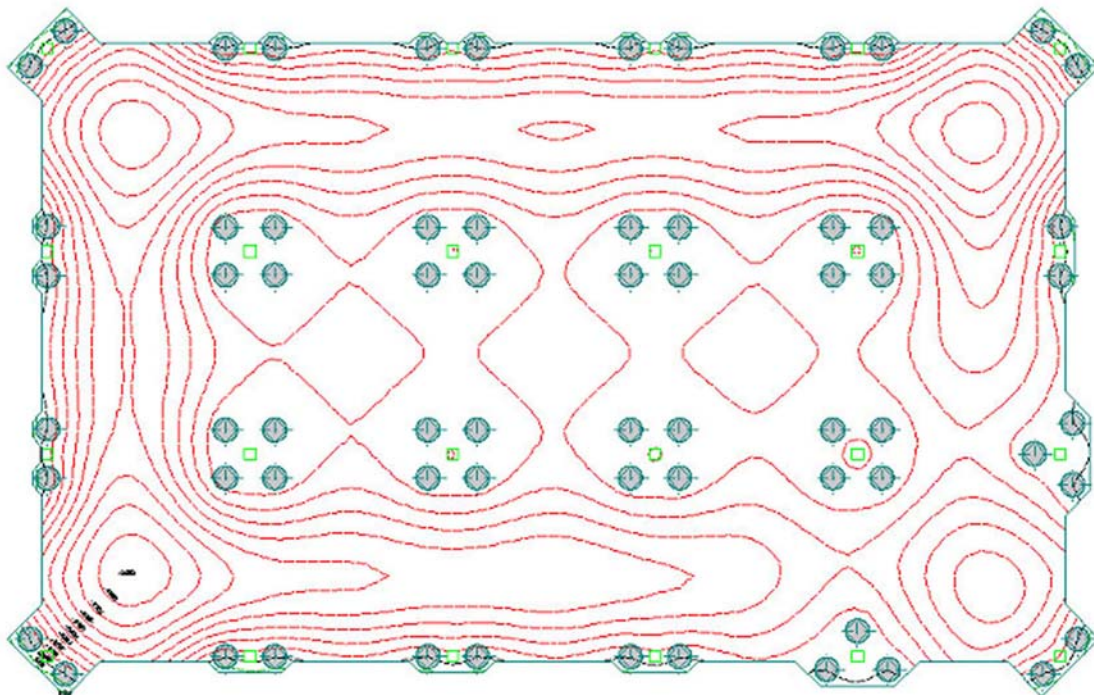


Cross section (above) of the Sintef microchip manufacturing facility. The isolators sit on piers, which are located in the basement of the building. The first and second floor of the fabrication portion of the facility are isolated on the isolators. In effect, there is a "building within a building".

	Prosjektadministrasjon: 	Arkitekter:
	Totalentreprise ved: 	Rådgivende ing. - stålkonstruksjoner:
	m+w zander total facility solutions Lotterbergstr. 30, D-70499 Stuttgart, Germany	Rådgivende ing. - ventilasjon:
	Prosjekteringsledelse og rådg. byggeteknikk: 	Rådgivende ing. - elektronikk:
Finansiering: Norges forskningsråd og SINTEF		Tekniske installasjoner:
		Vibrasjonsdemping:
		Grunnarbeider:
		Gulvavetting:
		Malerarbeid:
		Fundamentering:



The design concept for isolating the entire microchip fabrication facility was based on previous, successful solutions to vibration attenuation of this type. Many metrology and nanotechnology laboratories have been isolated using Fabreeka's® low frequency pneumatic isolators.



For this project, the dynamic, static and FEM analysis of the building structures were done by the building designer, Jan Skaalebraeten, of Reinertsen Engineering in Trondheim, Norway.



Sixty-six (66) PAL 1000 pneumatic isolators support the first and second floors of the wafer fabrication facility. Each isolator supports 120,000 lbs and has a vertical and horizontal natural frequency of 1.5 Hz.

