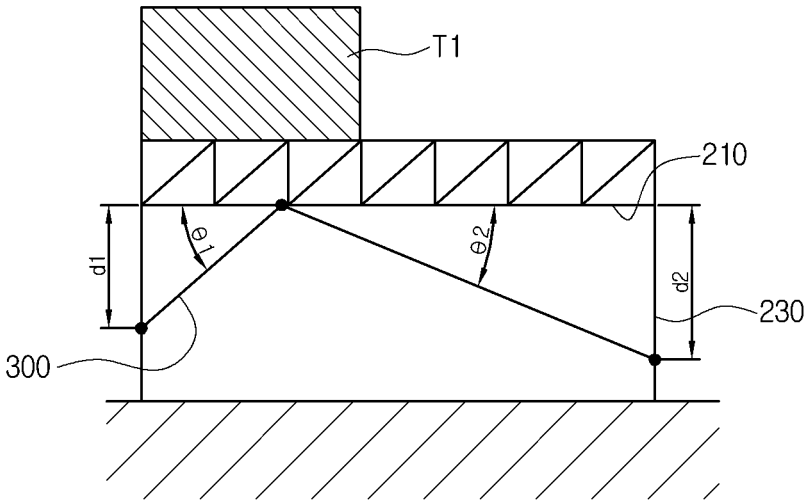
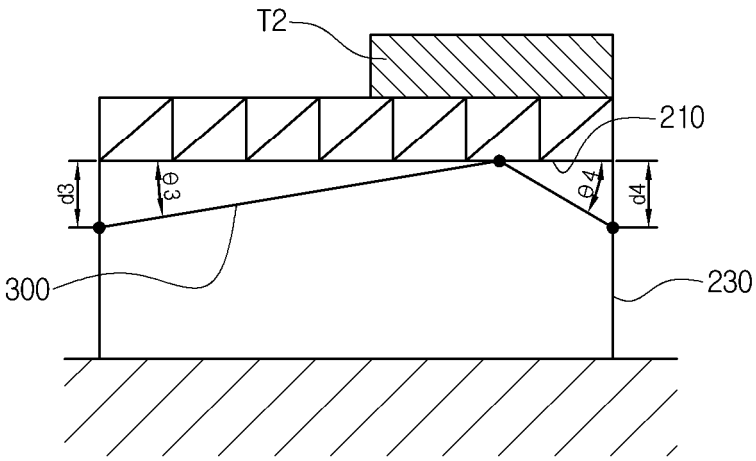
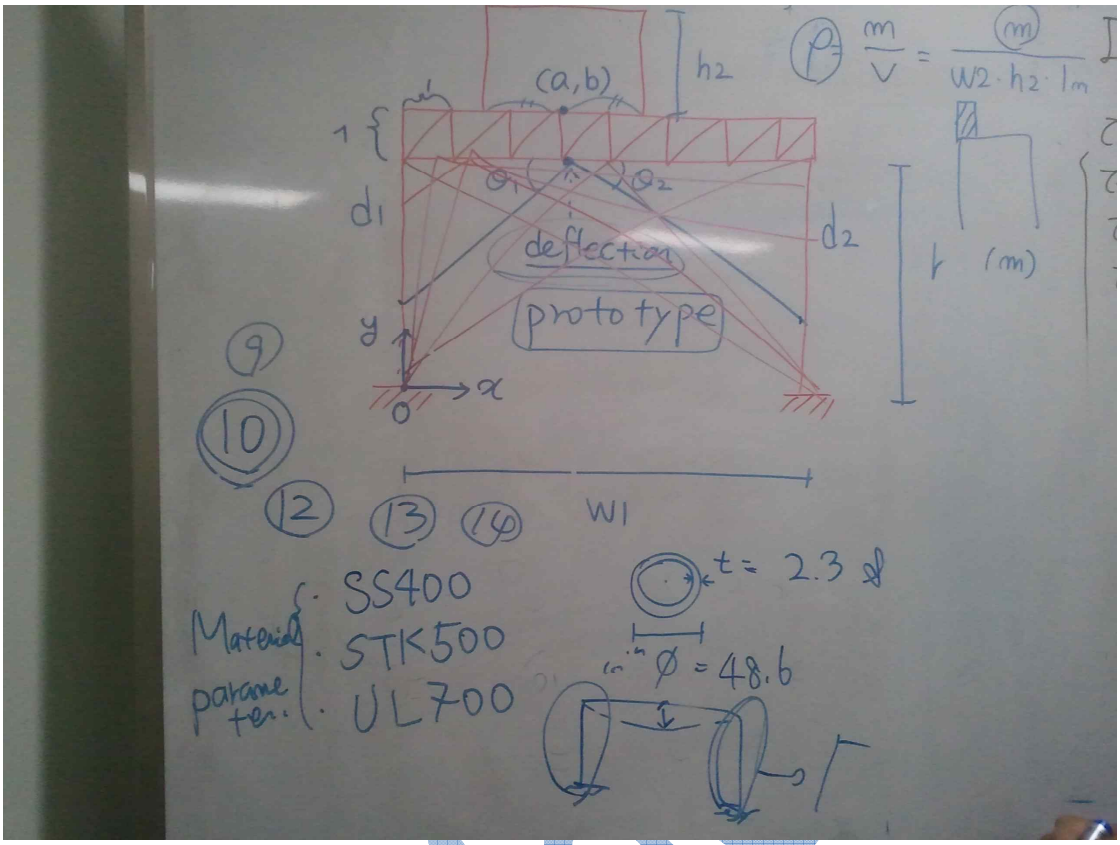
This shows a reinforcement method using steel tube brace members. Investigate optimal brace location and relationships among each parameter.



(a)



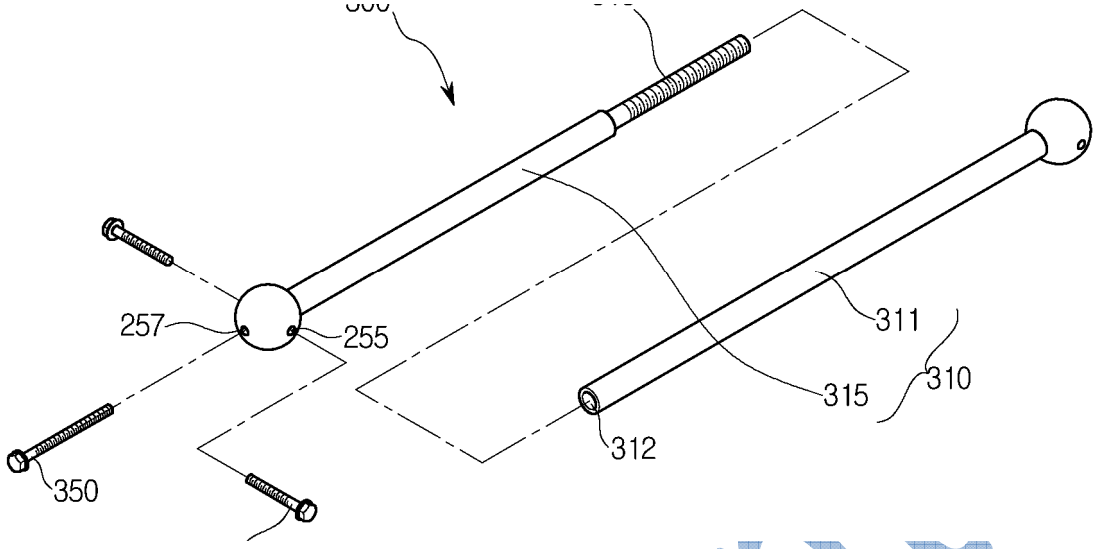
(b)



Steel type	Yielding stress(MPa)	Tensile stress(MPa)
SS400	**235**	**400**
STK500	**325**	**500**
UL700	**590**	**700**

Classification	STK500/SS400	UL700
Size of Member	**Φ48.6 x 2.3**	**Φ48.6 x 1.8**
Yield Strength (MPa)	325	595
Unit Weight (kg/m)	2.63	2.08
Quantity (kg/Frame)	299	237

***Steel bar is a tube with hole as follows.**



(1) Use optimal material distribution as topology optimization results

- **http://www.topopt.dtu.dk/?q=node/781**

(2) You can use free-chosen computational programs for analysis.

(3) Investigate ϴ1, ϴ2, d1, d2, according to change of w1, h1, w2,h2, location(a,b)

(4) Make a report using investigation results

- **Manuscript sample**

Dead line : 31th(Fri.) October, 2014

E-mail address to submit your assignment results : uniarchi@naver.com

No mid-term test.

Every class time concretes on your research project, which is managed for yourself and my advisory.