



mHS CITY LAB







# Self Construction

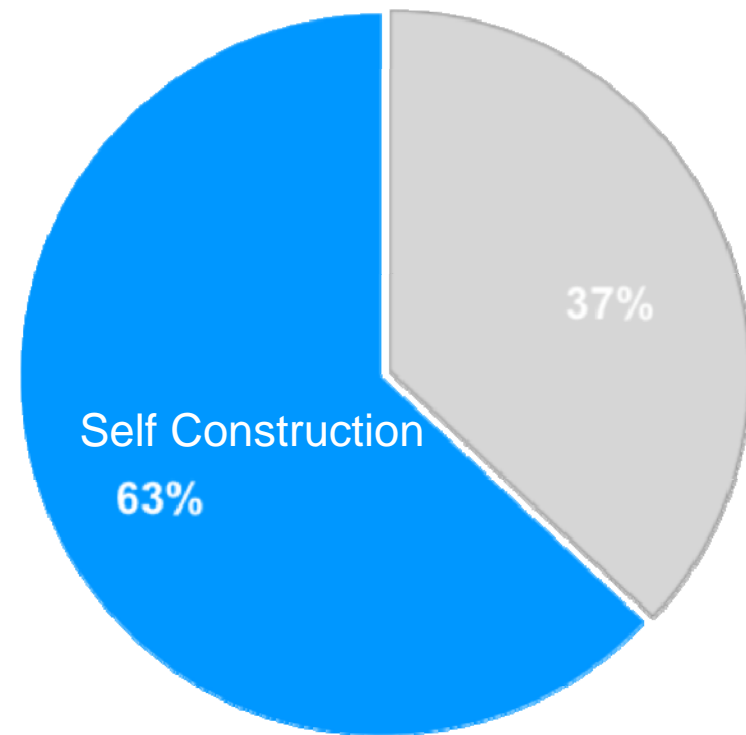
a process in which the homeowner ***is closely*** involved in every aspect of building, extending or refurbishing her unit, either undertaking the building work herself or contracting a mason under close supervision. Self-construction is ***not*** usually guided by current safe design or building norms and is influenced by word- of-mouth and informal knowledge of construction practices and technology.



# Self Construction in Delhi

JJ Cluster
Slum Designated Areas
Unauthorized Colonies
Resettlement Colonies
Rural Villages
Regularized-Unauthorized Colonies
Urban Villages
Planned Colonies

Source: DUEIP 2021

















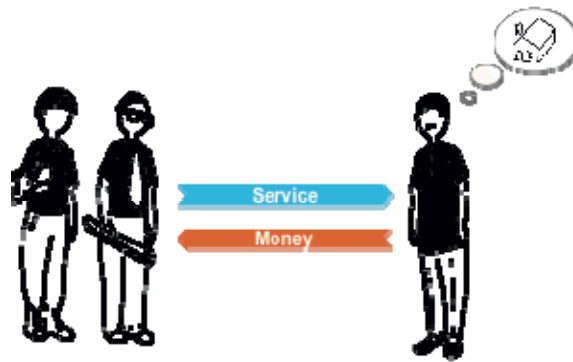
MICROFINANCE

+

TECHNICAL ASSISTANCE



1



Formal System



3



2



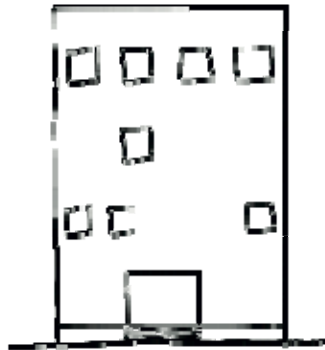
1

Non-Formal System



2

?



2



## Current Problem



Illegal Setting - Liability  
Can't Pay - No market opportunity



No need - Don't understand  
the value of services

Too expensive - No accessibility



# **SCHEDULE OF COMBINED FOOTING :-**

Sl. No.	Column ID	Column Size	Foundation Type	Foundation Size	Foundation Depth	Foundation Material	Foundation Location	Foundation Details				Foundation Dimensions			Remarks
								Foundation Type	Foundation Size	Foundation Depth	Foundation Material	Foundation Length	Foundation Width	Foundation Height	
1	C-1	300x300	Combined Footing	1200x1200	150	Concrete	Foundation	Foundation Type	Foundation Size	Foundation Depth	Foundation Material	Foundation Length	Foundation Width	Foundation Height	
								Foundation Type	Foundation Size	Foundation Depth	Foundation Material	Foundation Length	Foundation Width	Foundation Height	

## **DETAILS OF COLUMN :-**

Sl. No.	Column ID	Column Size	Column Material
1	C-1	300x300	Concrete

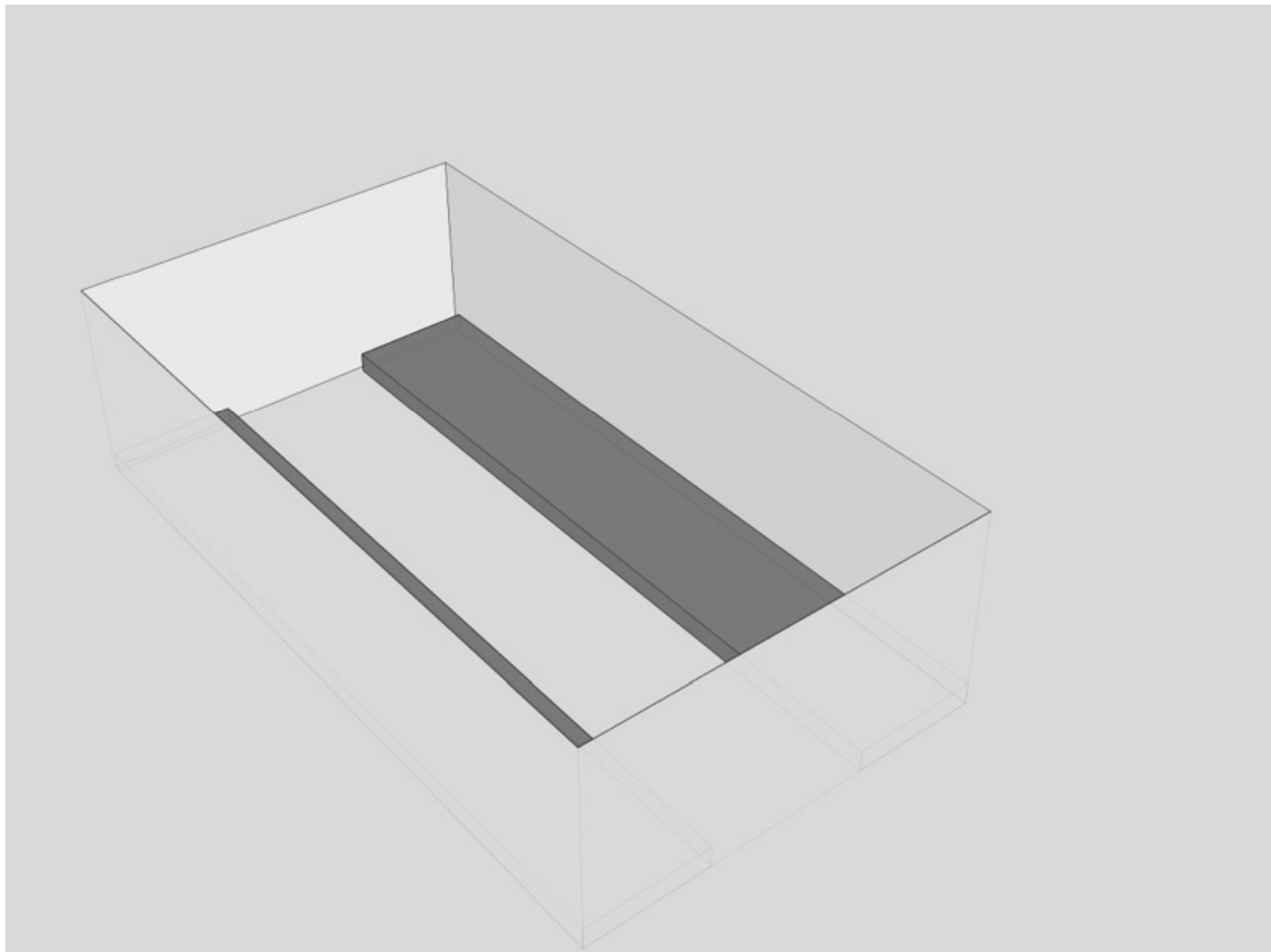


**Details of Column**

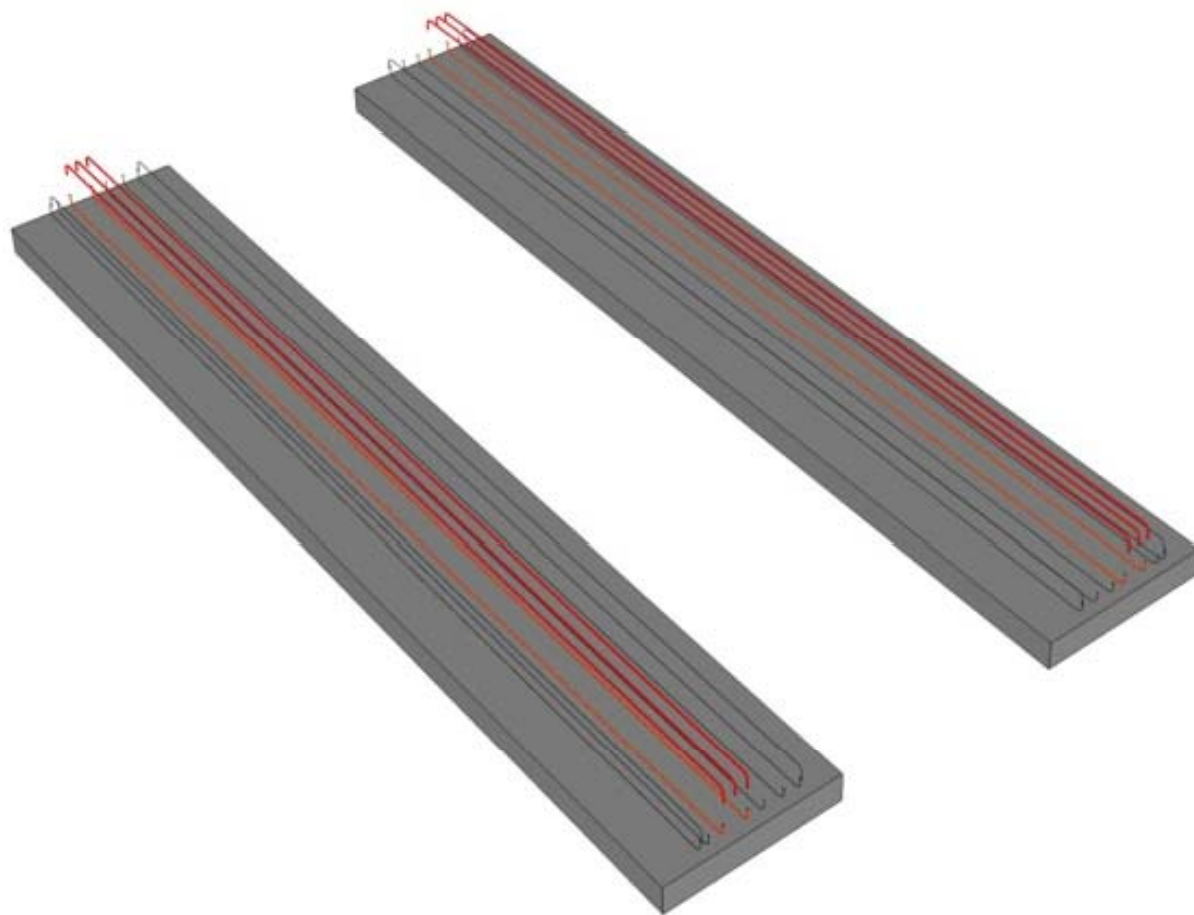
## **Notes:**

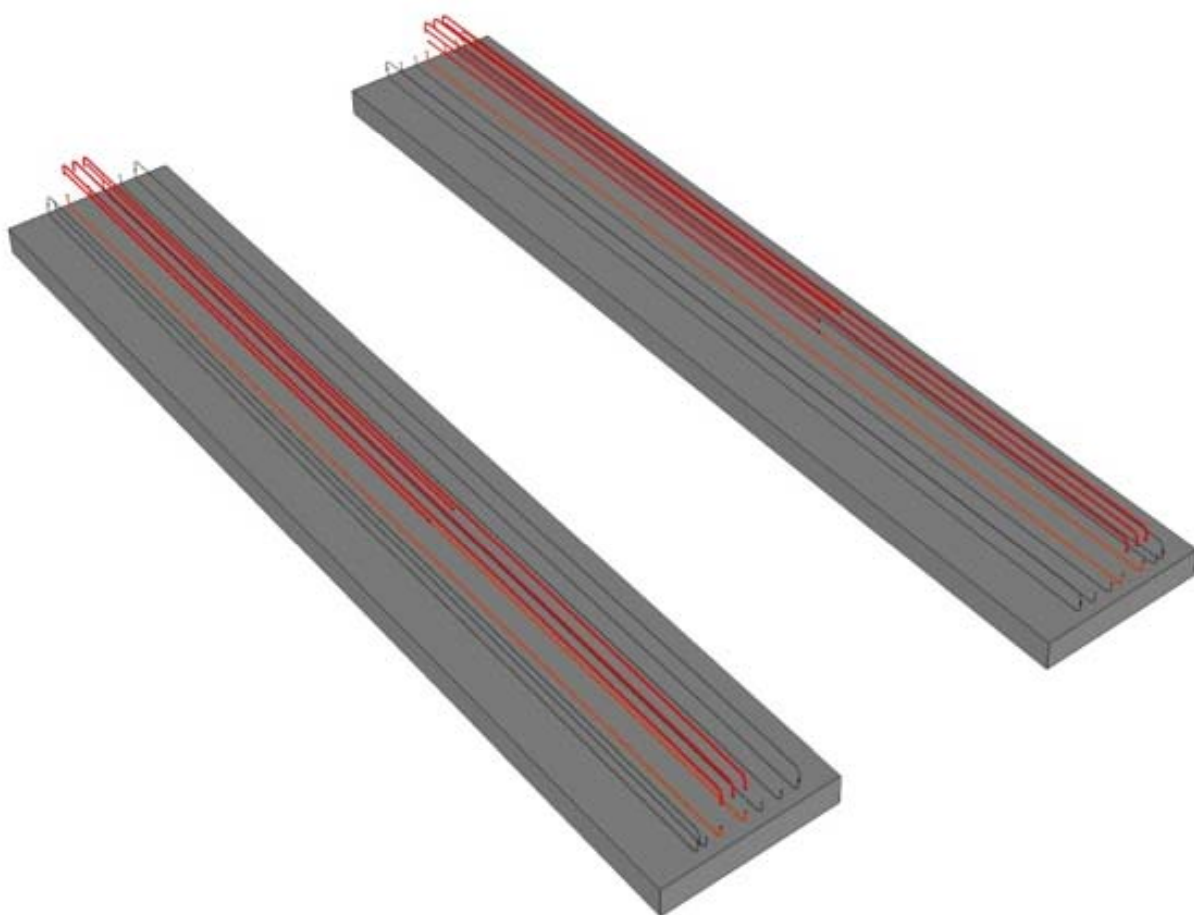
1. Foundation shall be constructed as per the design and specifications.
2. Foundation shall be constructed as per the design and specifications.
3. Foundation shall be constructed as per the design and specifications.
4. Foundation shall be constructed as per the design and specifications.

Sl. No.	Column ID	Column Size	Column Material
1	C-1	300x300	Concrete
2	C-2	300x300	Concrete
3	C-3	300x300	Concrete

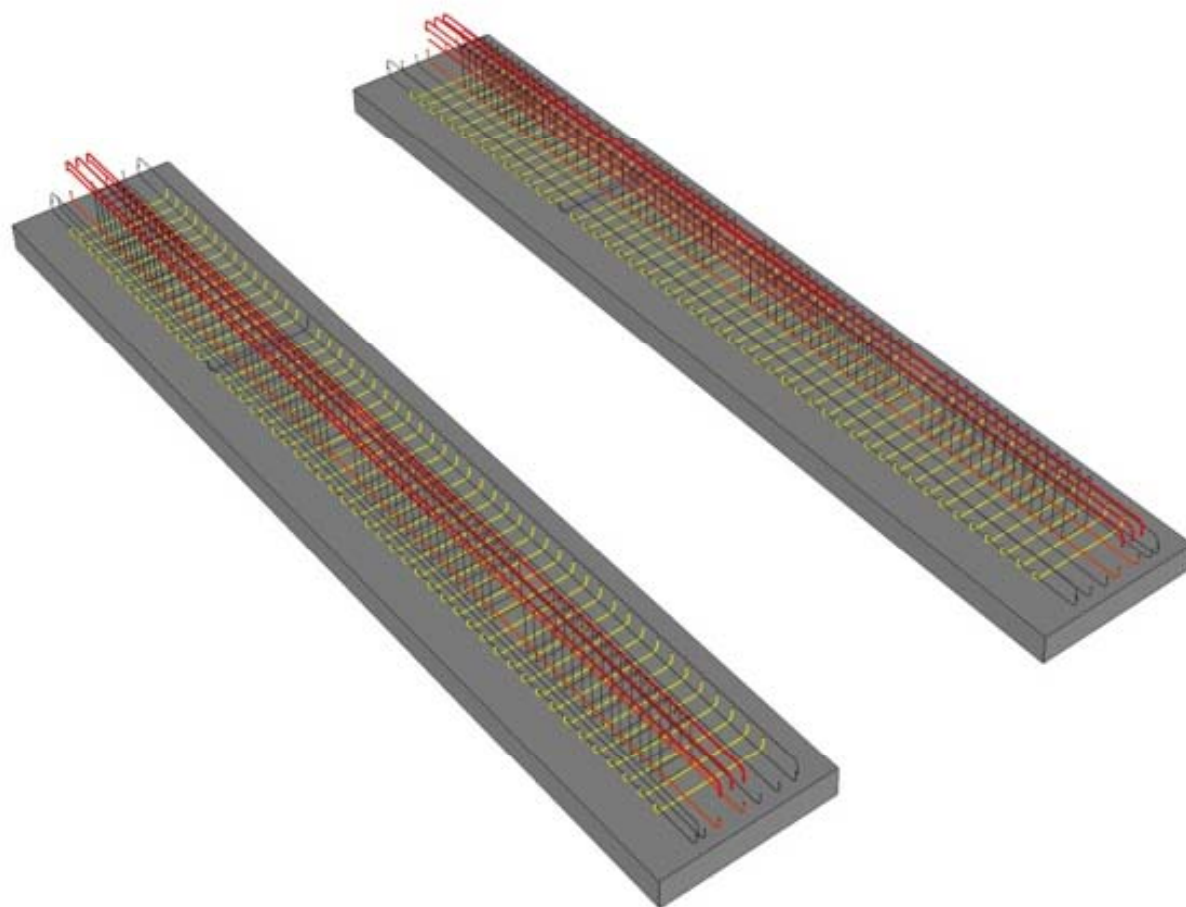


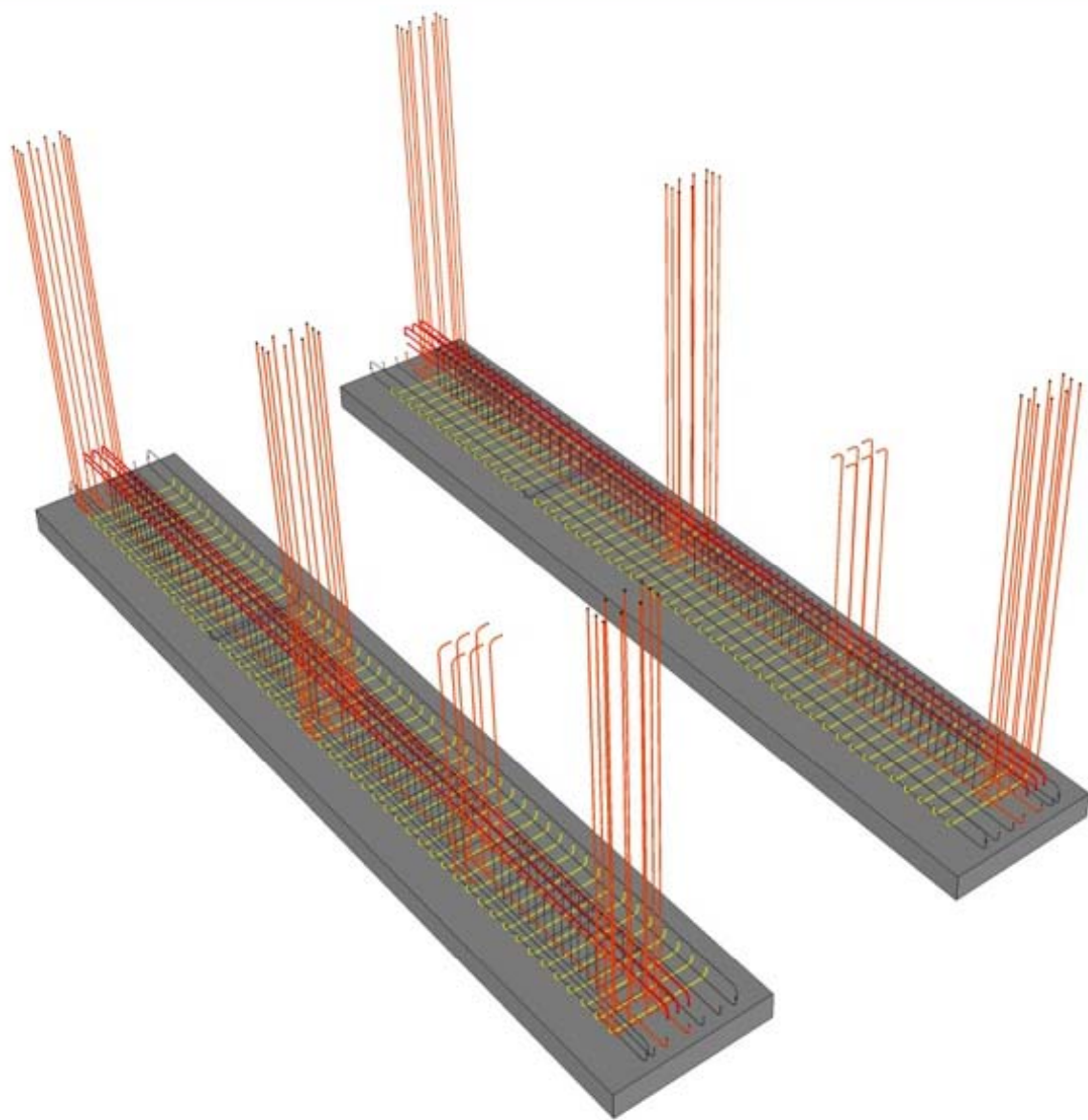




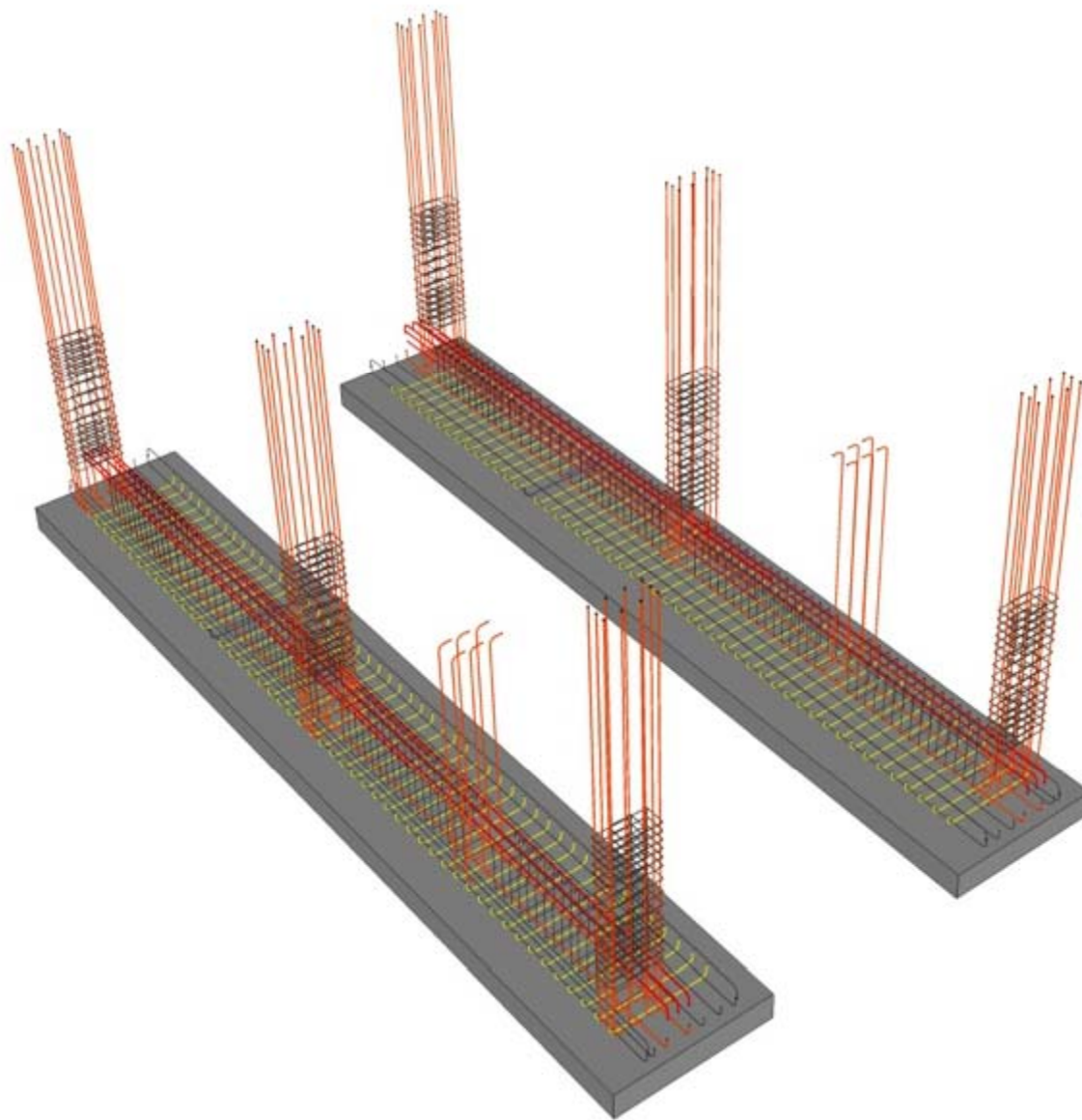


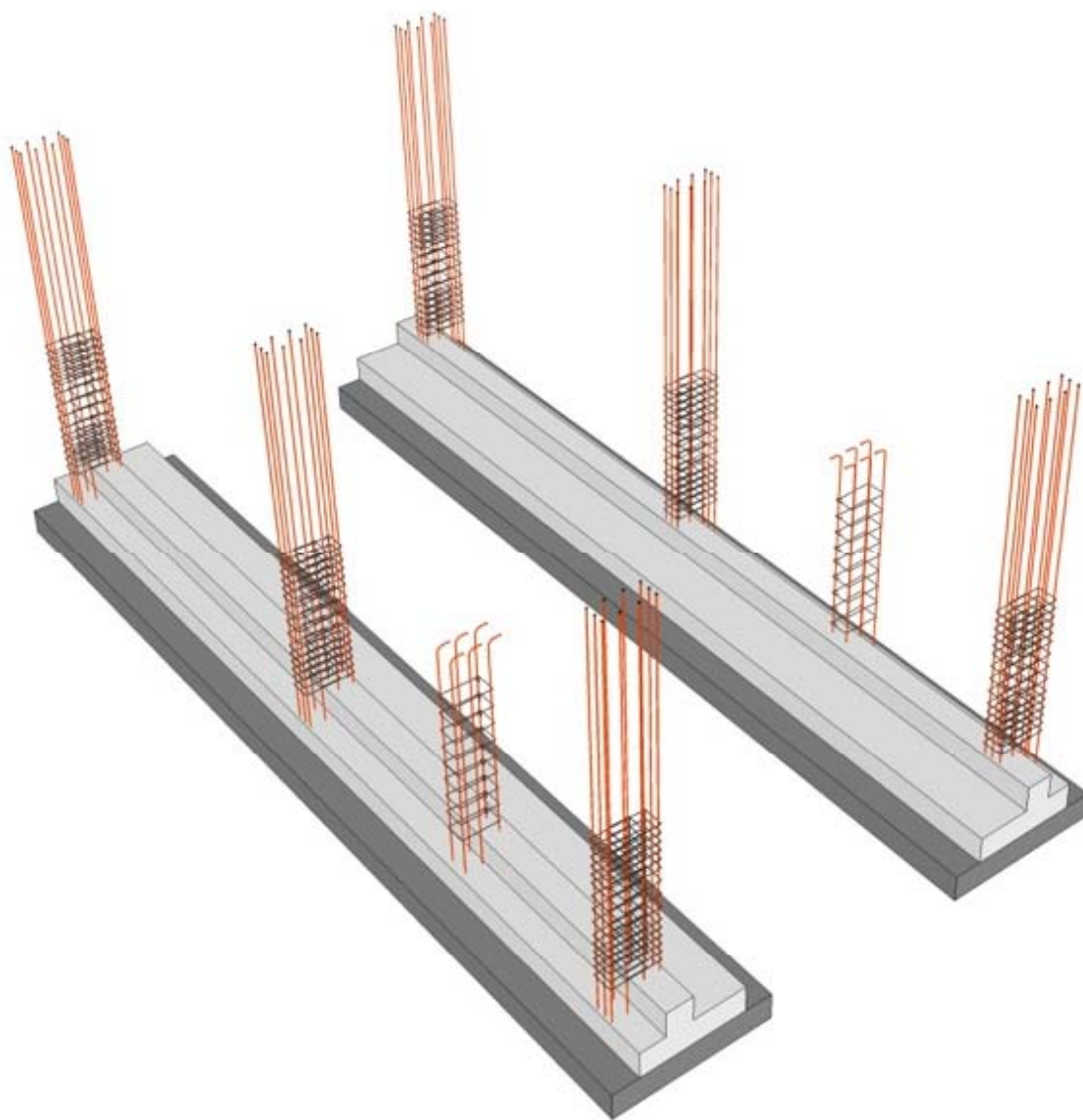




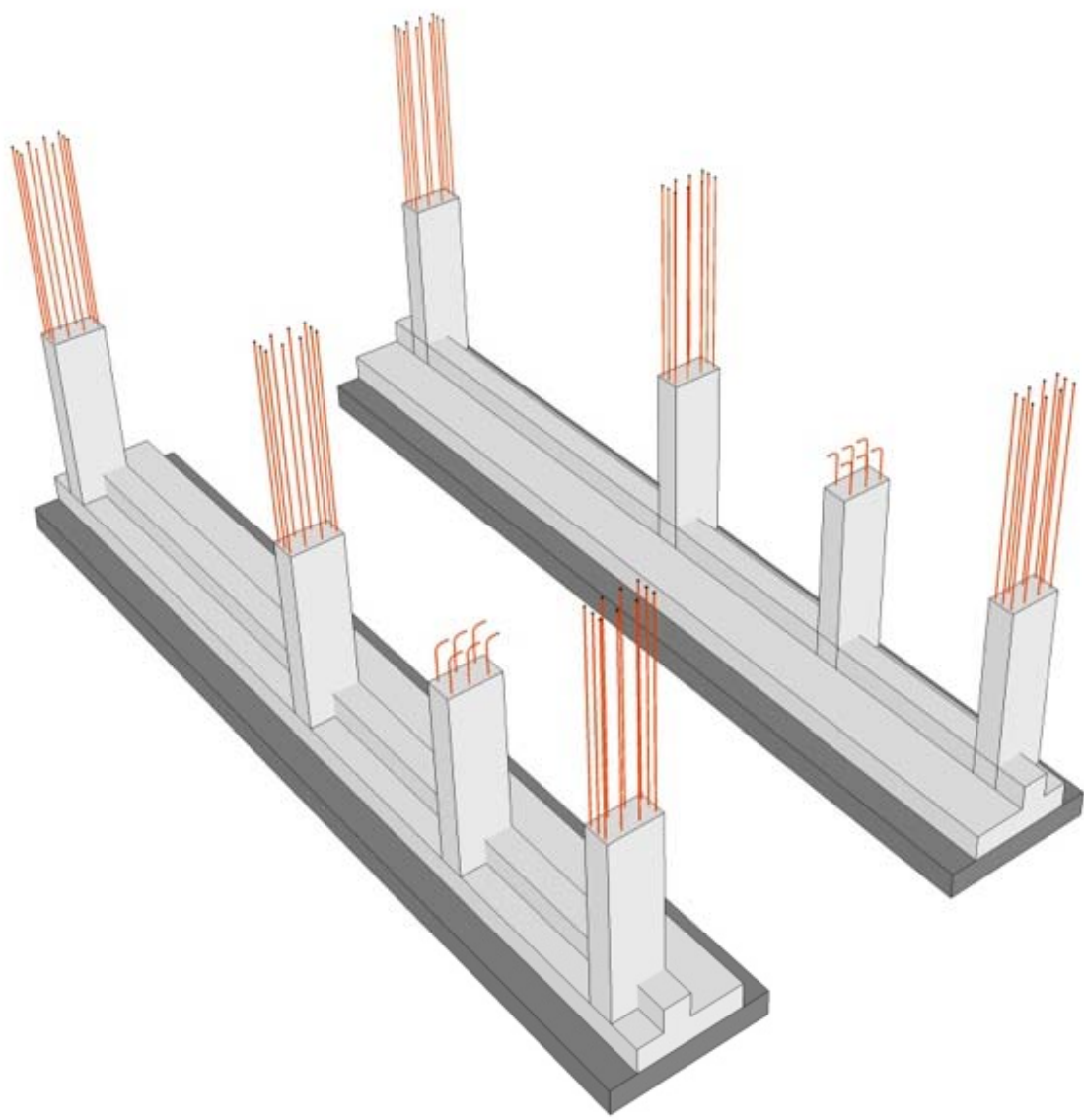


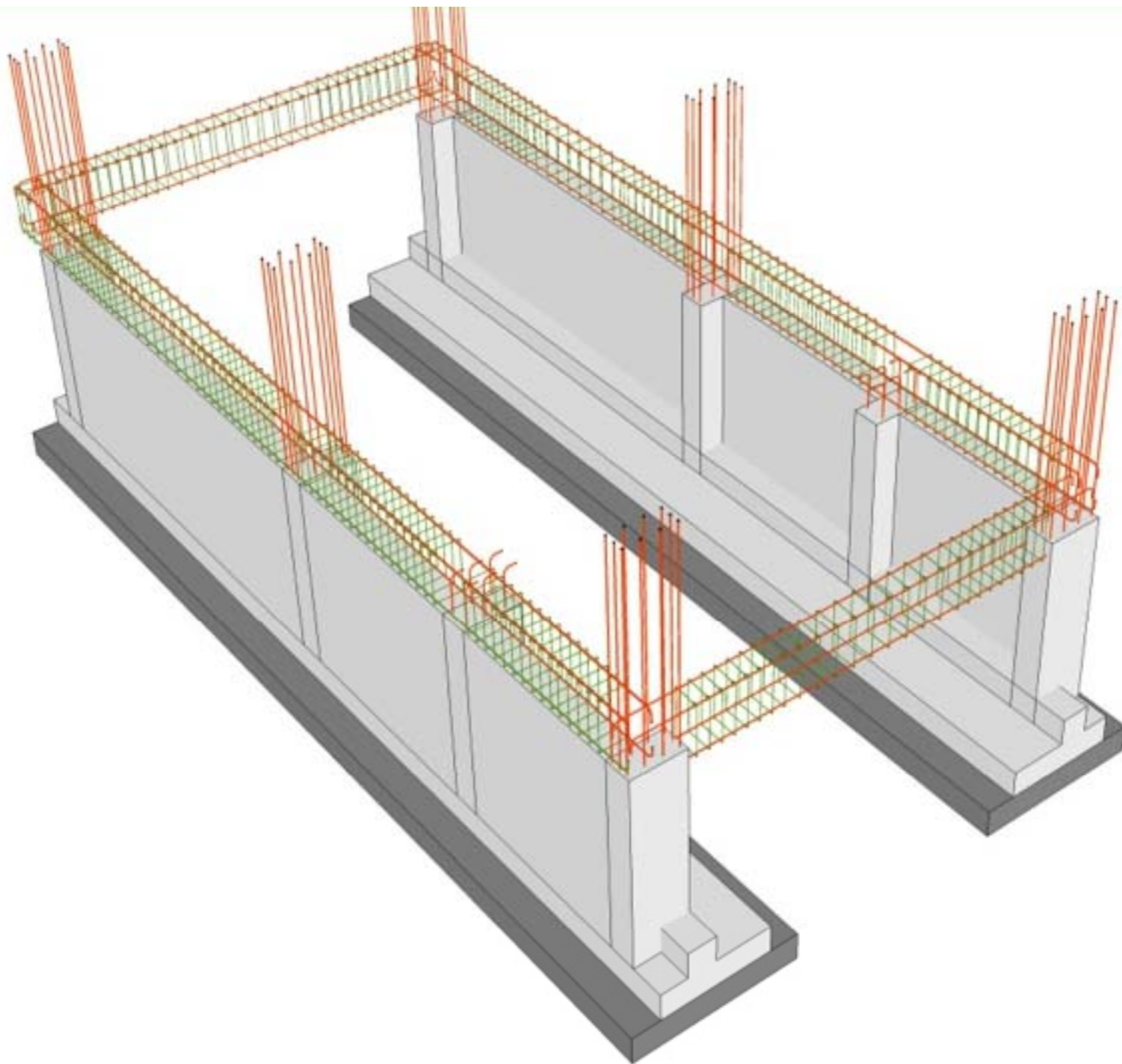


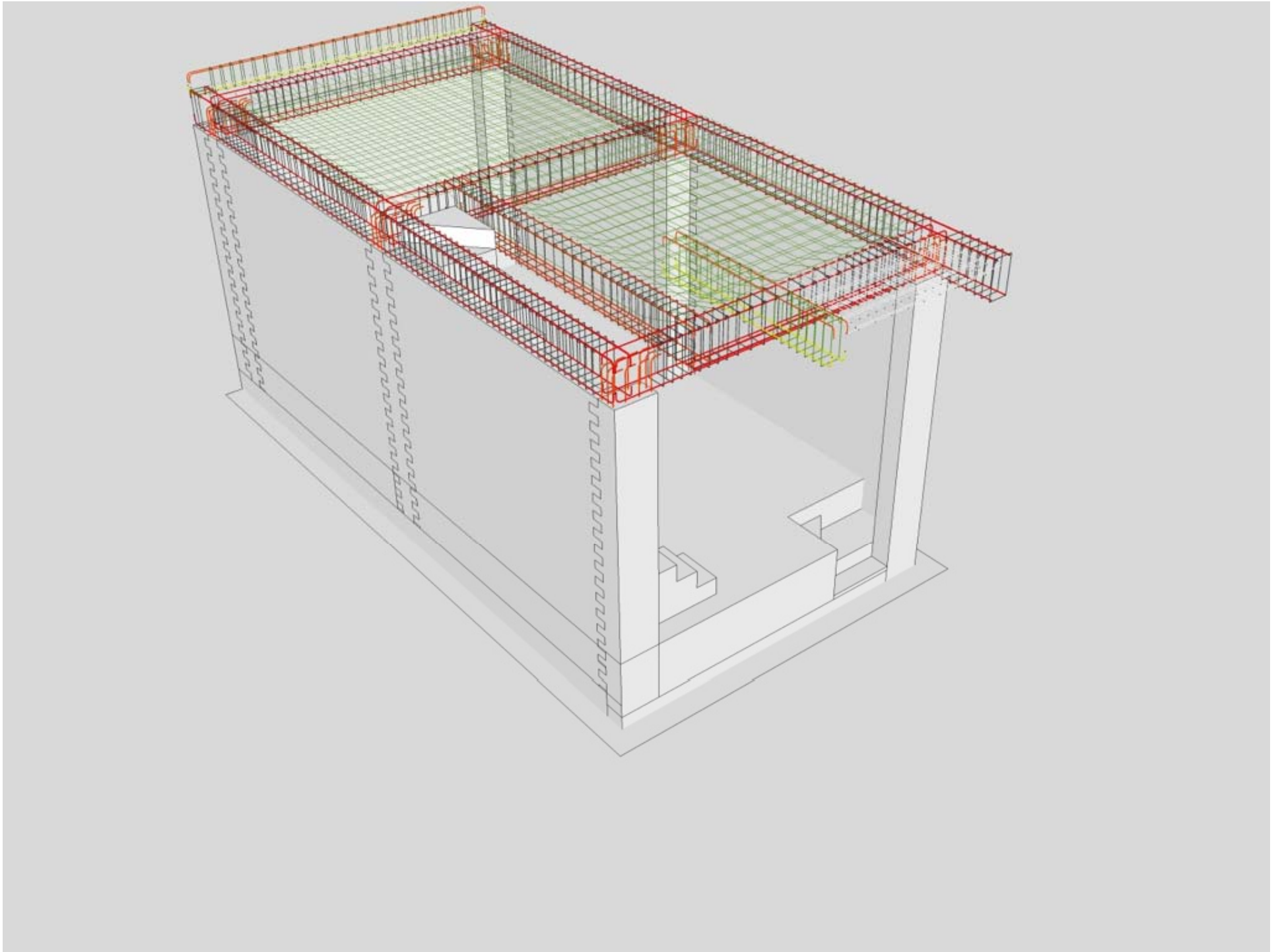




















# mHS theory of change

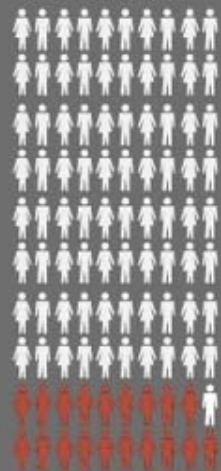
Appropriately designed technical training modules and customized inputs offered to masons and homeowners engaging in incremental housing can positively influence the quality of the buildings, especially in low-income communities. This is based on the observation that many gross mistakes are made due to lack of basic construction knowledge and that if corrected, the safety and quality of buildings could dramatically improve.

**Digital tools able to deliver these services can become direct guides for masons and homeowners and improve the output of other interventions as mason's training programs or awareness campaigns on safety of structures. Digital tools can thus be critical to improve the quality and resilience of low-income rural and urban settlements.**



urban population  
of India

400 million



76 million

live in dense  
informal  
settlements

Source : UNDP, 2009

11%  
skilled workers

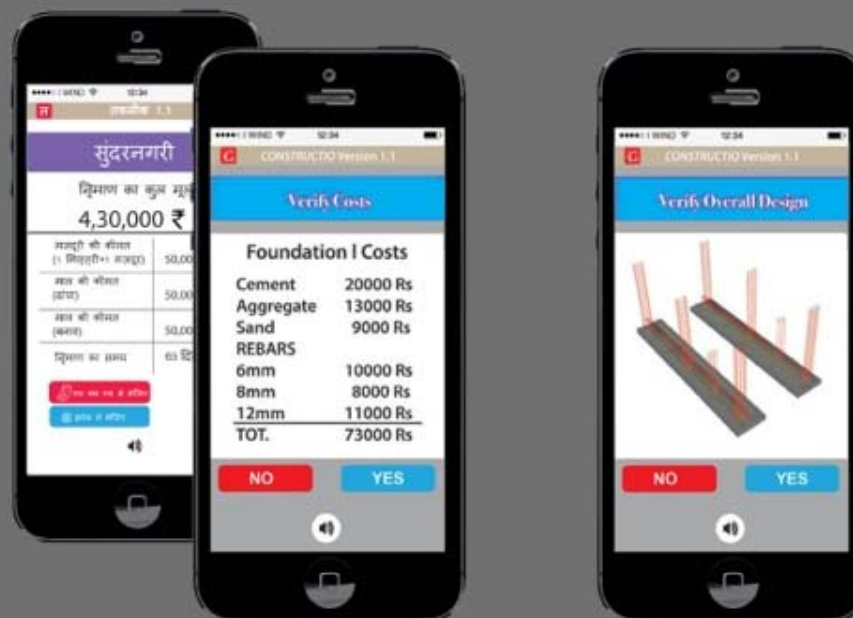
Source : Government of India, 2008

lack of  
professional  
assistance

# MISTRIMAN

multi lingual

customizable  
wrt context



inputs

Size  
Location  
No. of storeys  
Terrace access  
Septic tank

outputs

Estimate  
COST  
MATERIAL  
Training Lessons  
Seismically safe Design  
Construction Monitoring

user groups



Home-owners  
& Masons



Financial  
Institutions



Training  
Organisations

Improving the quality of INFORMAL HOUSING in Indian cities through

MOBILE TECHNOLOGY

accessible

960.6 million wireless  
subscribers



58% URBAN 42% RURAL

Source : Telecom Regulatory Authority of India  
Annual Report 2013-14

Projected smart phone  
users in India  
200 million by 2016  
280 million by 2018

Source : eMarketer, 2014  
2 Billion Consumers Worldwide to  
Get Smart(phones) by 2016

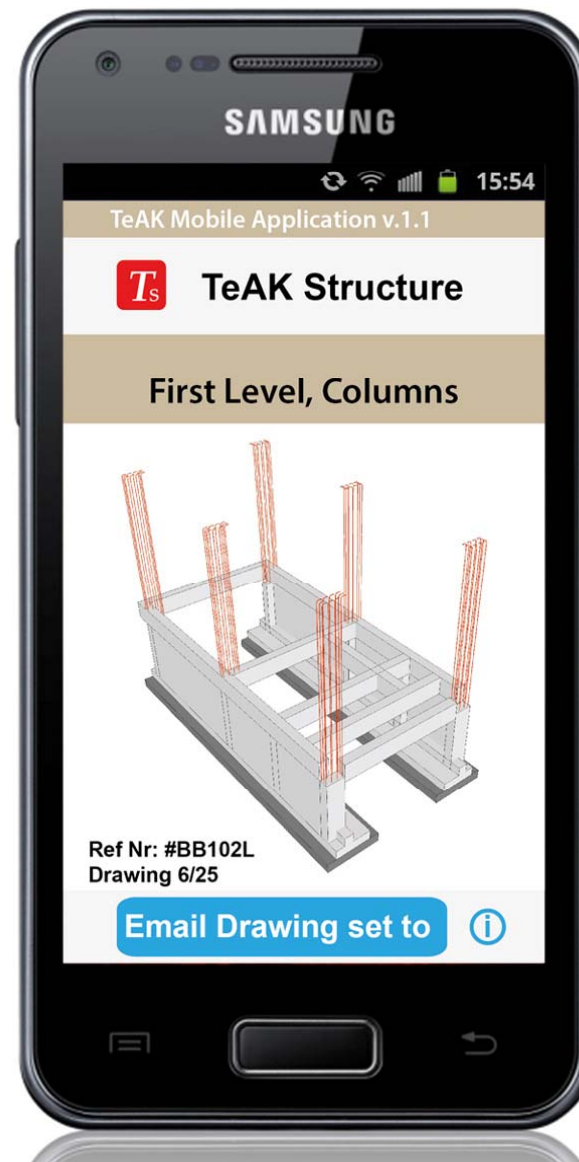
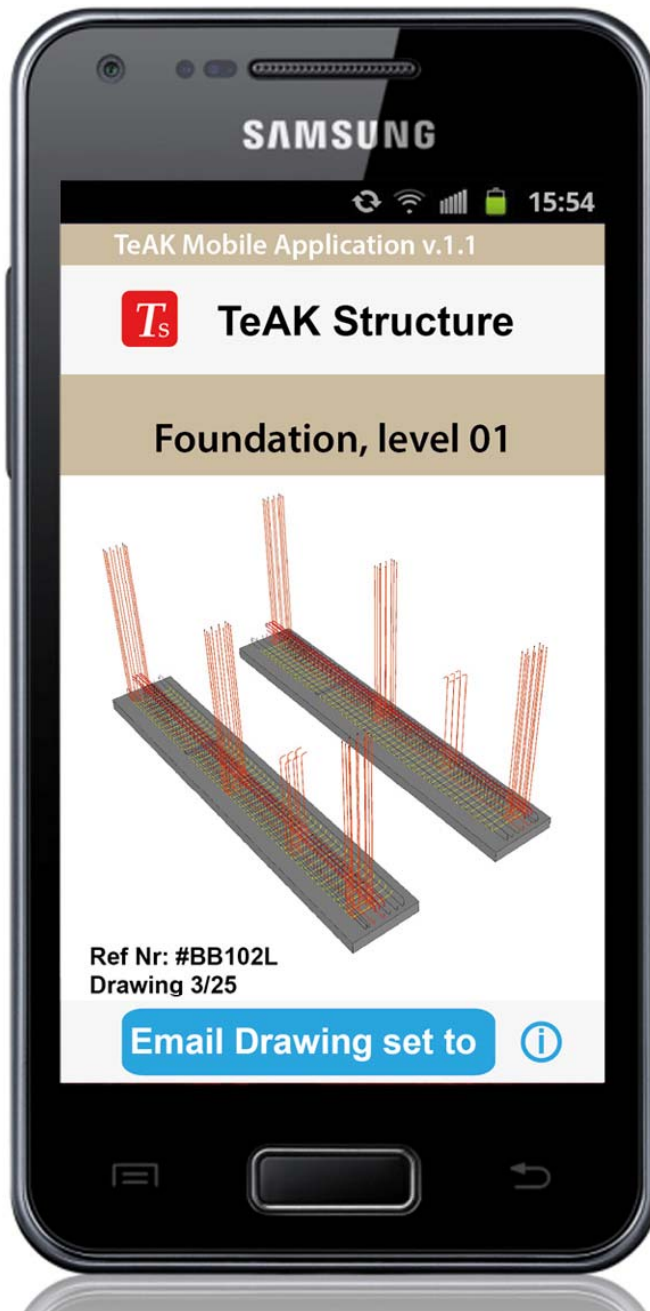
60%  
smart phone users  
have android os

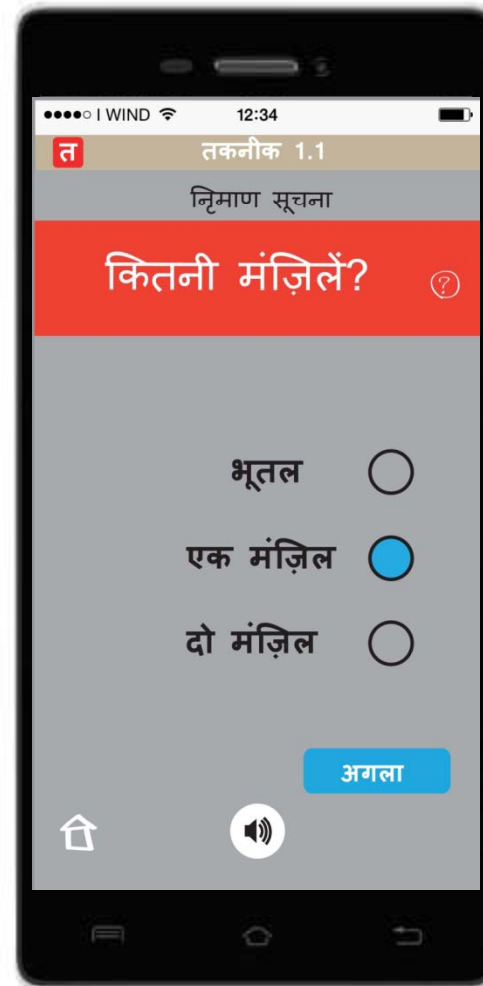
Source : Market share held  
by mobile operating systems  
in India from January 2012 to  
March 2015. Statista, 2015

average cost of a smart phone

2010 11,986 INR  
2015 2,945 INR  
2020 1,194 INR

Source : PriceBaba.com, 2014  
India Android Consumption  
Report 2014































































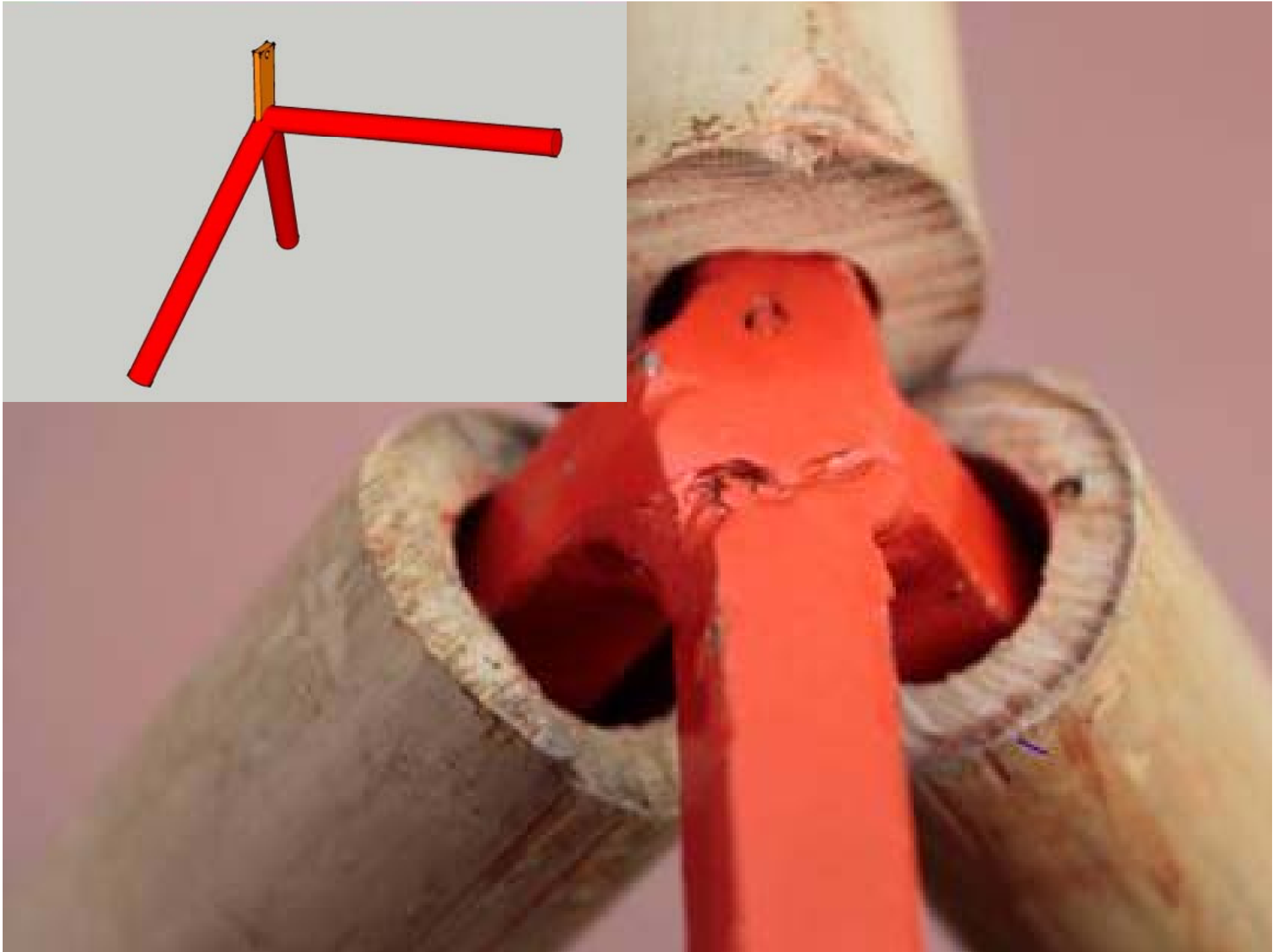
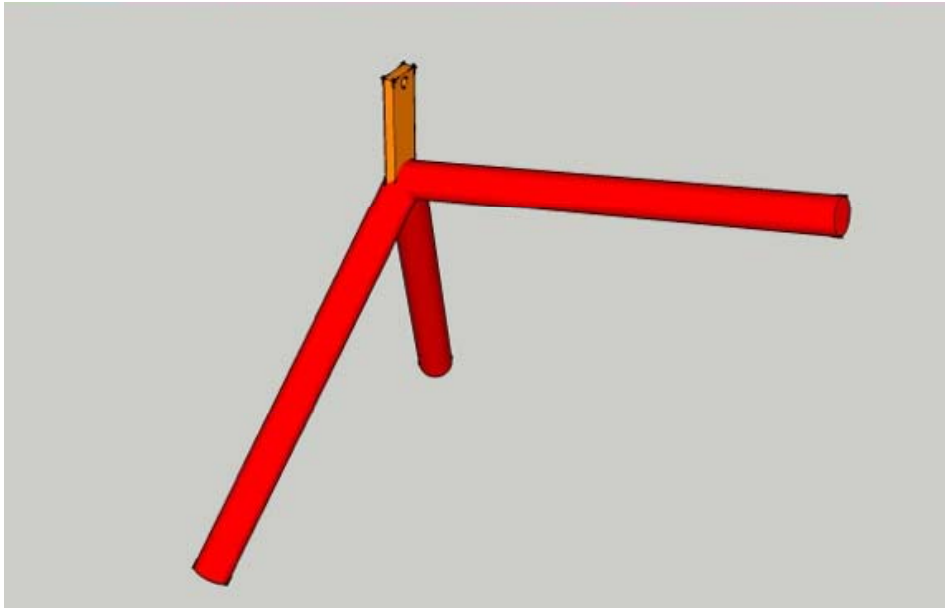


*ek*SHELTER

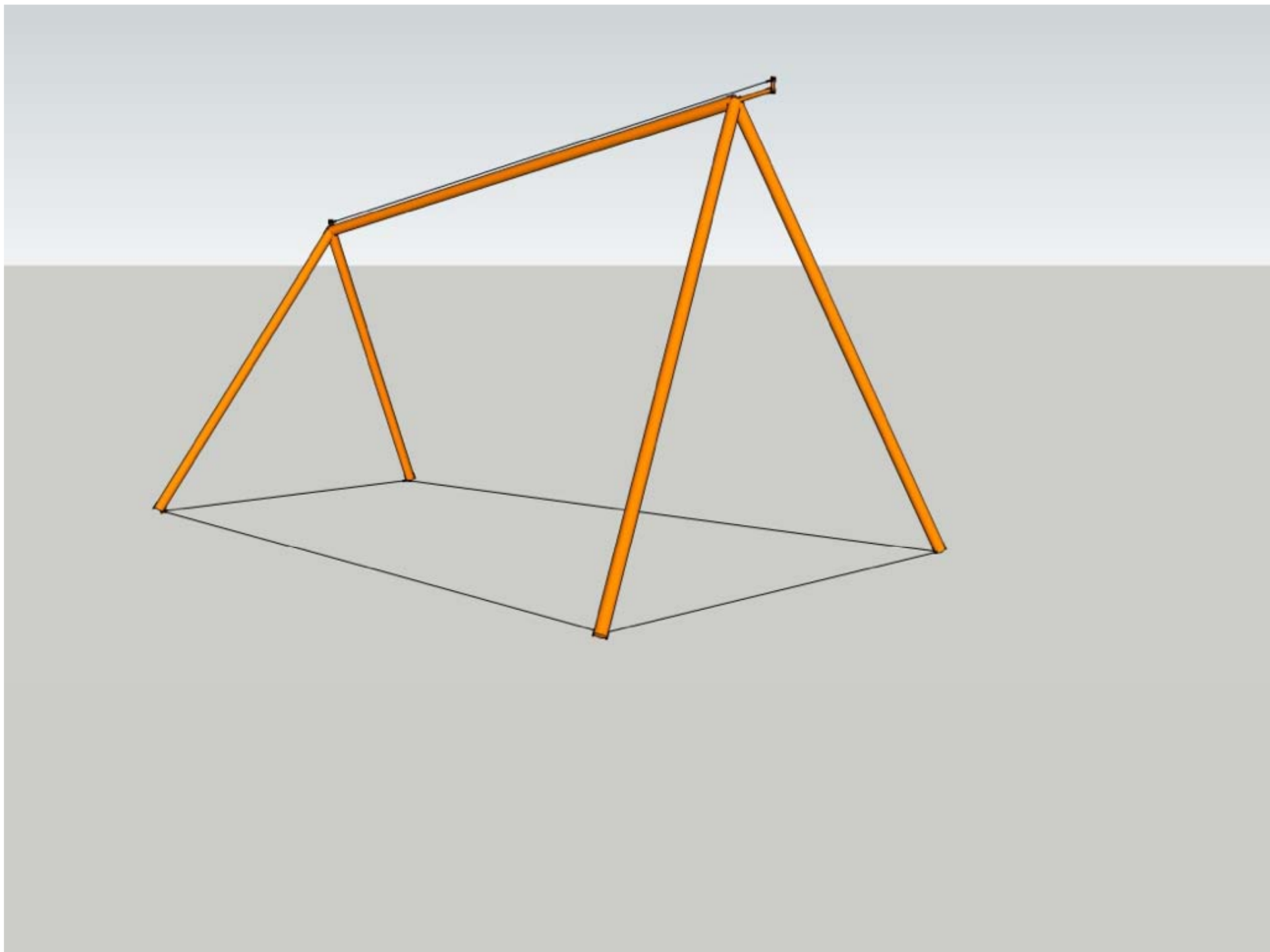


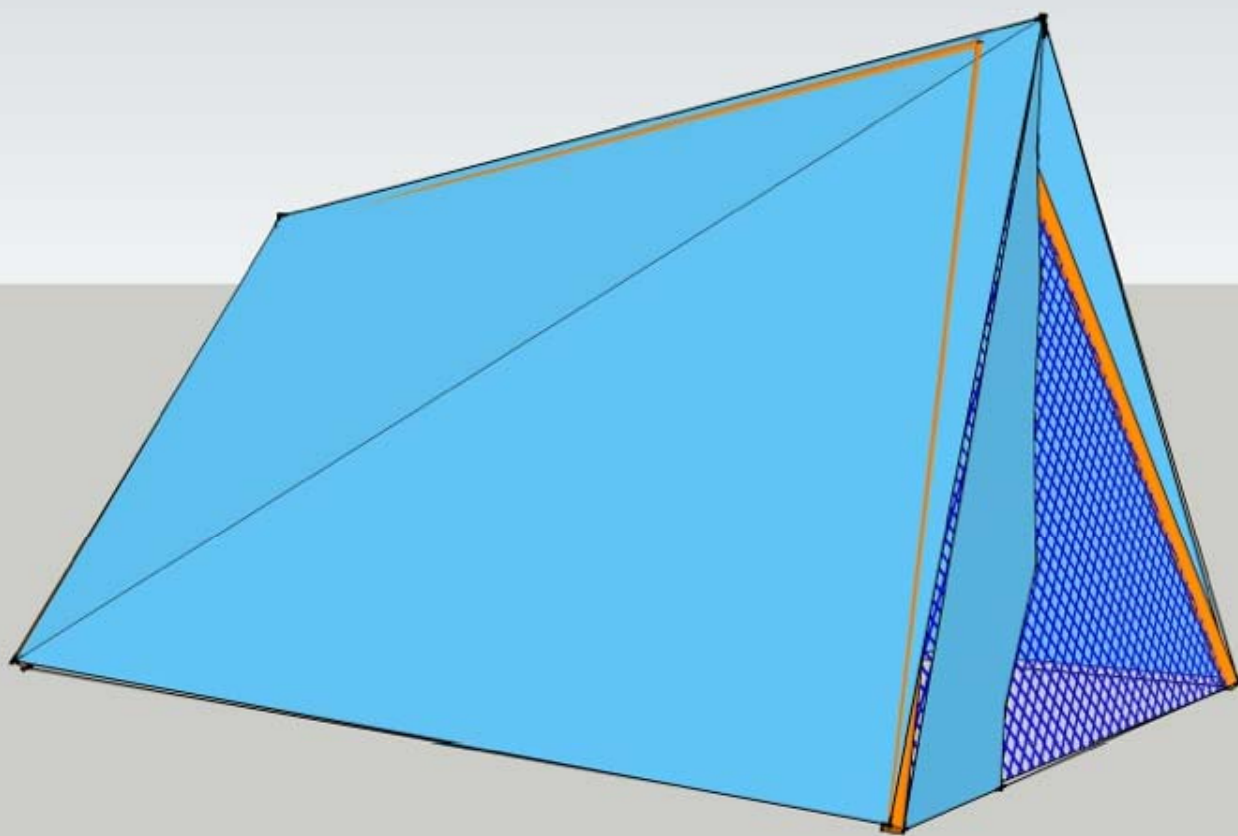
























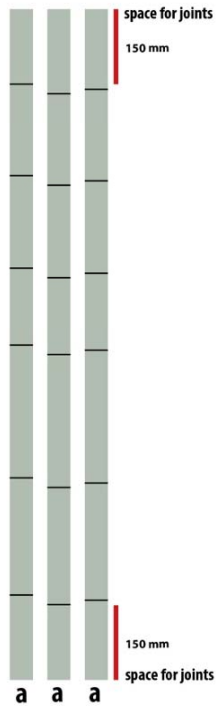




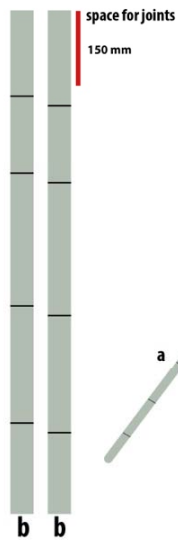
## INSTRUCTION 2

### CUTTING THE BAMBOO

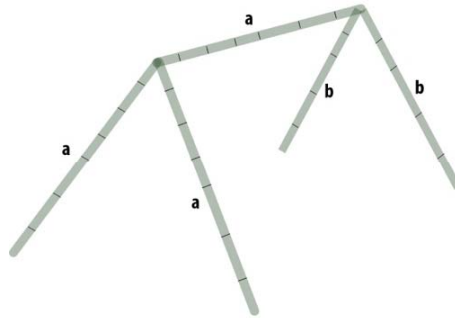
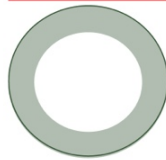
**3x1500 mm**



**2x1150 mm**



outer diameter of bamboo  
35 - 40 mm

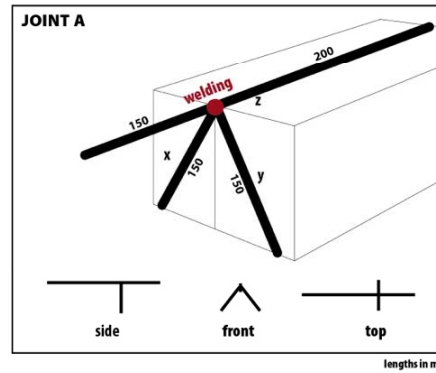
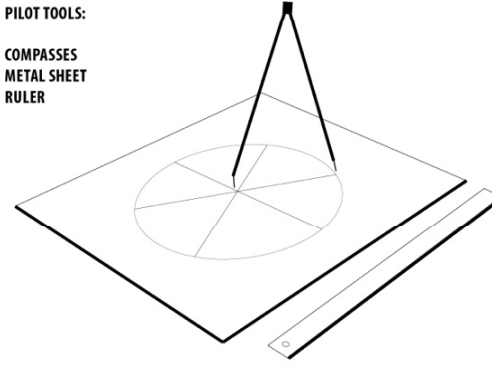


## INSTRUCTION 1

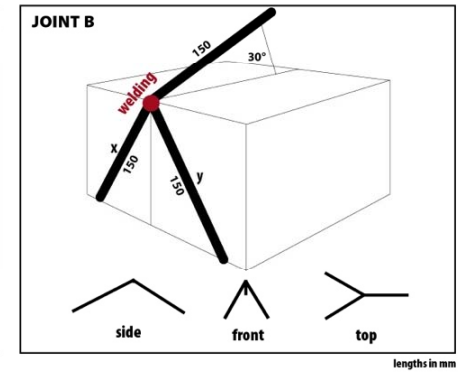
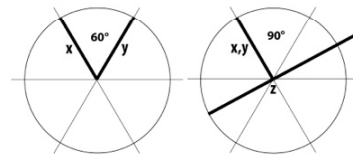
### WELDING THE JOINTS

PILOT TOOLS:

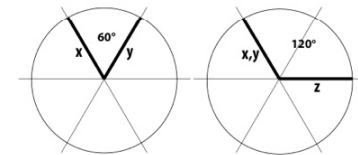
COMPASSES  
METAL SHEET  
RULER



angles required for joint A:



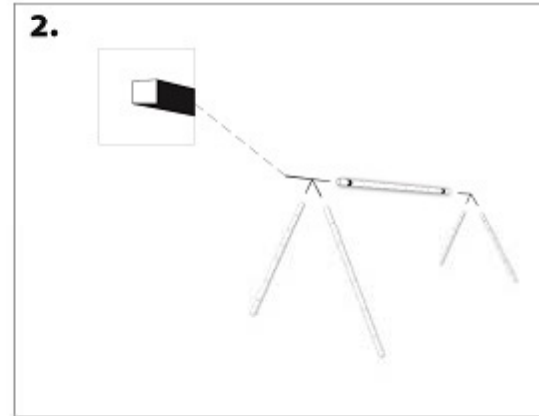
angles required for joint B:



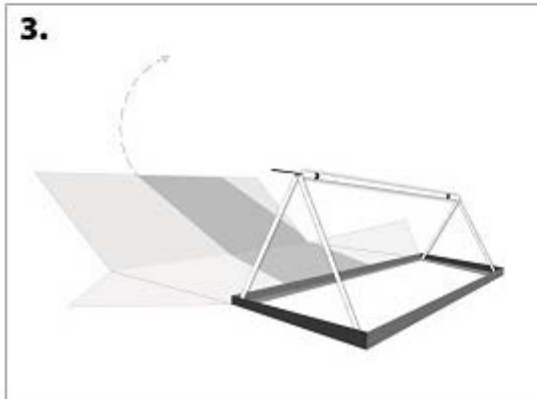
1.



2.



3.



4.





























