APPENDIX-B

II- COST (Based on Schedule Rates 1978)

| | |
|---|---|
| i) Cost of 0.7642 $m^3$ or 27.30 $ft.^3$ of B.B. work laid in 1:5 C.S. mortar @ Rs.782/85 per % Cft | Rs. 213.72 |
| ii) Cost of 13.03 $m^2$ or 140.25 sft plaster 1:5 C:S @ Rs.109/55 per % Sft | Rs. 153.64 |
| Area of Wall=6.0 $m^2$ or 64.58 sft. | Rs. 367.36 |
| Rate per % $m^2$ ..... | Rs.6122.67 |
| Or rate per % Sft ..... | Rs. 568.85 |

PART 'C' GYPSUM SHEET WALL

Wall length (m) = 3.0
Wall height (m) = 3.0
Sheet thickness(cm) = 2.0

I- MATERIALS

| | |
|---|---|
| i) Foundation blocks; 2 Nos. of 1.5 m each(2x150x10x10); 0.03$m^3$ or 36 Kg. | Rs. 12.60 |
| ii) Gypsum pannel sheets; 3 Nos. of 1.5 m each and 3 Nos. of 1.45 m each (3x150x100x2+3x145x100x2);0.177 $m^3$ or 212.4 Kg | Rs. 74.34 |
| iii) Gypsum bracings: 6 Nos. of 1.35 m each; 2 Nos. of 2.0 m each & 2 Nos. of 1.0 m each;(6x135x10x2+2x200x10x2+2x100 x10x2); 0.028 $m^3$ or 33.6 Kg. | Rs. 11.76 |
| | Rs. 142.98 |
| iv) Fibre (hessian) @ 2% of item Nos.(ii) and (iii); 4.92 Kg. @ Rs.9/- per Kg (Market rate on 15.1.79) | Rs. 44.28 |
| | Rs. 142.98 |
| v) Add for gypsum mortar for joints: 0.015$m^3$(0.5 cft) or 18 Kg(Lumpsum) | Rs. 6.30 |

II- LABOUR COST

| | |
|---|---|
| a) For the manufacture of units @ 25% of items 1 to iv | Rs. 35.75 |
| b) For construction of wall: 1 No. carpenter @ Rs.40/- per day & 1 No.skilled Cooly @ Rs. 15 per day | Rs. 55.00 |
| III- Oiling and depreciation of moulds etc(Lumpsum) | Rs. 5.00 |
| IV. Miscellaneous;(nails,screws,steel strips etc) (Lumpsum) | Rs. 35.00 |
| Total: | Rs. 275.03 |

APPENDIX-B

Area of Wall=9$m^2$ or 96.88 Sft

| | | |
|---|---|---|
| Rate % $m^2$ ..... | Rs. | 3059.00 |
| or % Sft | Rs. | 283.88 |

PART 'D' ABSTRACTS

| | | | |
|---|---|---|---|
| A) | Cost of gypsum board wall (% $m^2$) | Rs. | 4162.00 |
| | (% Sft) | Rs. | 385.14 |
| B) | Cost of brick masonry Wall(%$m^2$) | Rs. | 6123.00 |
| | (% Sft.) | Rs. | 569.00 |
| C) | Cost of gypsum sheet wall (% $m^2$) | Rs. | 3059.00 |
| | (% Sft.) | Rs. | 283.88 |

APPENDIX-C

## WEIGHT OF GYPSUM/MASONRY WALLS

PART 'A': WEIGHT OF GYPSUM BOARD WALL PER METRE RUN: LENGTH 2.0M AND HEIGHT 3M

I- WEIGHT OF WALL UPTO 1.0M HEIGHT( BOTTOM LAYER)

| | | |
|---|---|---|
| 1) | Foundation blocks;200x15x10 | = 30,000 $Cm^3$ |
| 2) | Pannel board; 200x5x90 | = 90,000 " |
| 3) | Pillar blocks; 10x15x100 | = 15,000 " |
| | | =135,000 " |
| 4) | Weight of Gypsum units @ 1.2 gms/$Cm^3$ | = 162 Kg. |
| 5) | Weight per m.run | = 81 Kg. |

II- WEIGHT OF WALL UPTO 1 METRE HEIGHT (SUBSEQUENT LAYERS)

| | | |
|---|---|---|
| 1) | Pannel board; 200x5x100 | =100,000 $Cm^3$ |
| 2) | Pillar blocks; 10x15x100 | = 15,000 " |
| | | =115,000 " |
| 3) | Weight of gypsum units @ 1.2 gms'/$Cm^3$ | = 138 Kg. |
| 4) | Weight per m.run | = 69 Kg. |

III- WEIGHT (AVERAGE) PER M.RUN = 73 Kg.

PART 'B' : WEIGHT OF MASONRY WALL PER METRE RUN: LENGTH 2 M AND HEIGHT 3 M

| | | |
|---|---|---|
| 1. | Masonry pannels;=200x11.43x100 | =228,600 $Cm^3$ |
| 2. | Masonry pillars;=22.86x22.86x100 | = 52,258 " |
| | | =280,858 " |
| 3. | Weight of masonry work @ 1.926 gms/$Cm^3$ | = 541 Kg. |
| 4. | Weight per m.run | = 270.5 Kg. |

PART 'C': WEIGHT OF GYPSUM SHEETS WALL PER METRE RUN OF LENGTH 3.0M AND HEIGHT 3M

I- WEIGHT OF WALL UPTO 1.0 m HEIGHT (Bottom Layer)

| | | |
|---|---|---|
| 1) | Foundation blocks; 300x10x10 | = 30,000 $Cm^3$ |
| 2) | Pannel Sheets; 300x2x90 | = 54,000 " |
| 3) | Brachings; 3 Nos. 3x10x2x90 | = 5,400 " |
| | | = 89,400 " |

APPENDIX-C

4) Weight of gypsum units @ 1.2 gms/$Cm^3$ = 107.28 Kg.
5) Weight per M.run. = 35.76 Kg.

II- WEIGHT OF WALL(UPTO 1.0 M HEIGHT
(Subsequent Layers)

1) Pannel Sheets; 300x2x100 = 60,000 $Cm^3$
2) Brachings:(3x10x2x100+1x300x2x10) = 12,000 "
3) Weight of gypsum units @ 1.2 gms/$Cm^3$ = 86.4 Kg.
4) Weight(Average) per m.run. = 28.8 Kg.

III- Weight(Average) per m.run = 31.12 Kg.

PART 'D' REDUCTION IN WEIGHT WITH GYPSUM UNITS

1) Weight per metre run of gypsum board wall = 73.0 Kg.

2) Weight per metre run of gypsum sheet wall = 31.12 Kg.

3) Weight per metre run of B.B.Masonry Wall = 270.5 Kg.

4) Reduction Ratio:

a) Gypsum board wall Vs B.B.Masonry Wall = 1 : 3.71

b) Gypsum Sheet Wall Vs B.B.Masonry Wall = 1 : 8.69

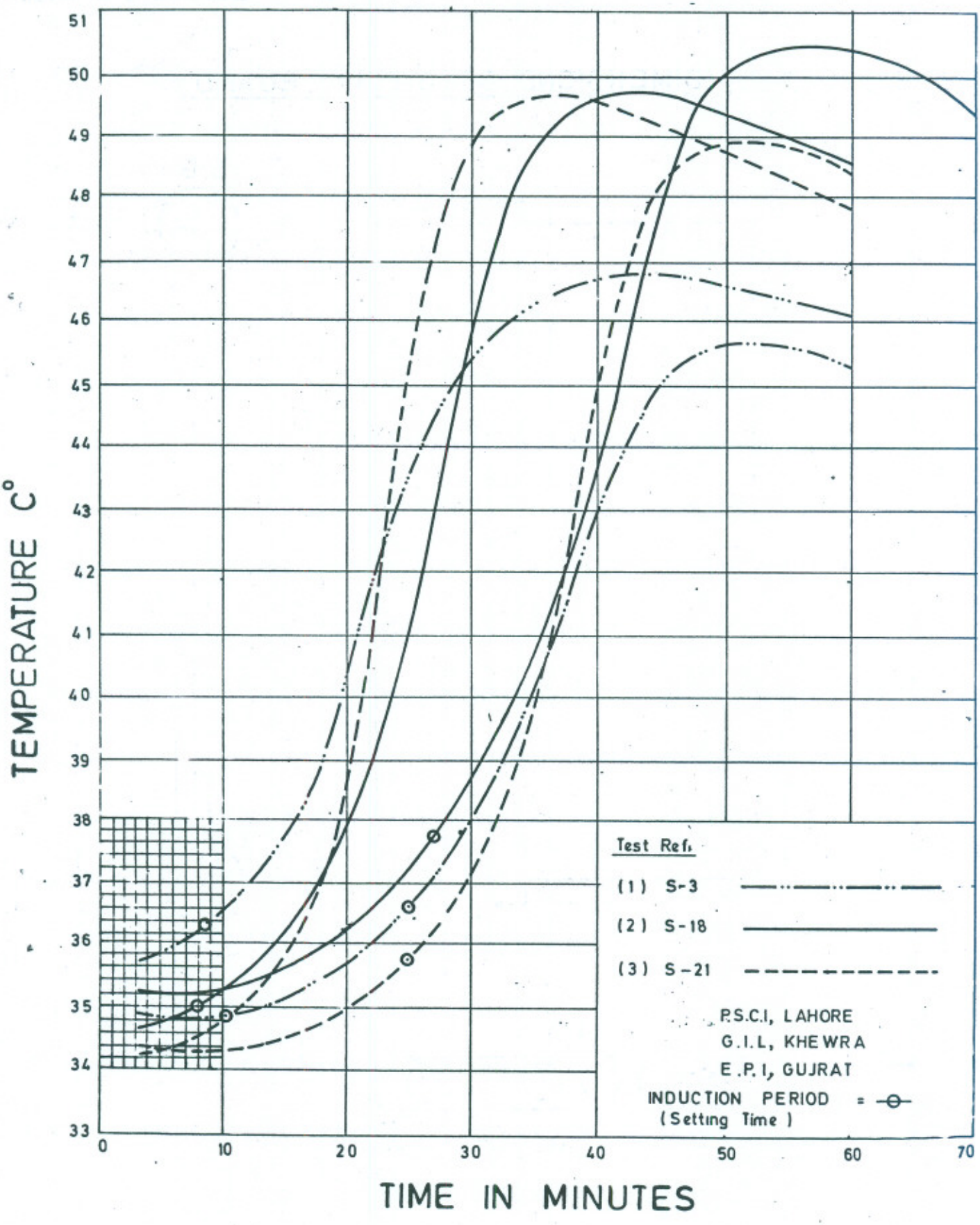
Paper No. 441

S. Sibtul Hassan Shah & Ali Mohammad

# INDUCTCTION PERIOD OF GYPSUM · PLASTERS

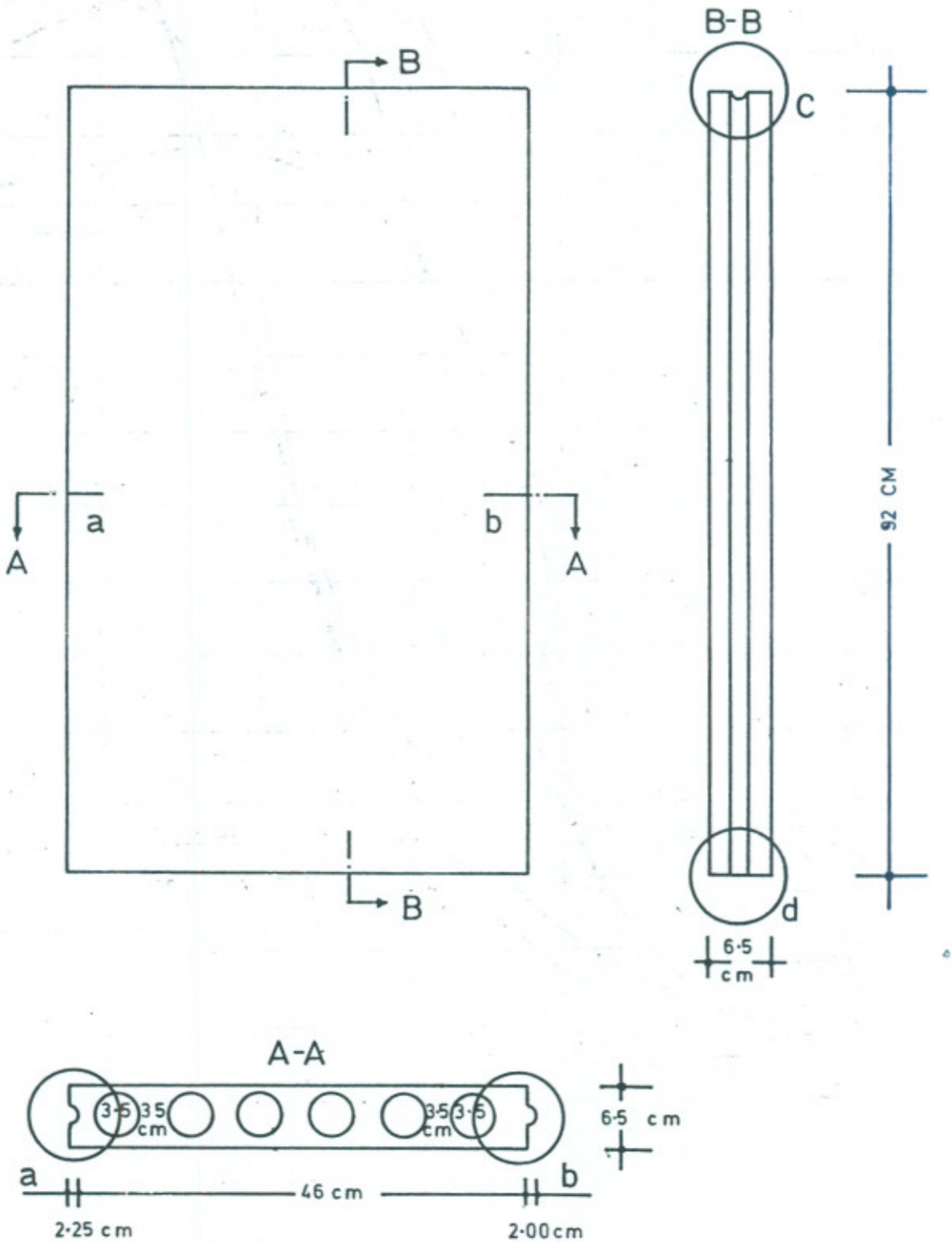
FIG NO I

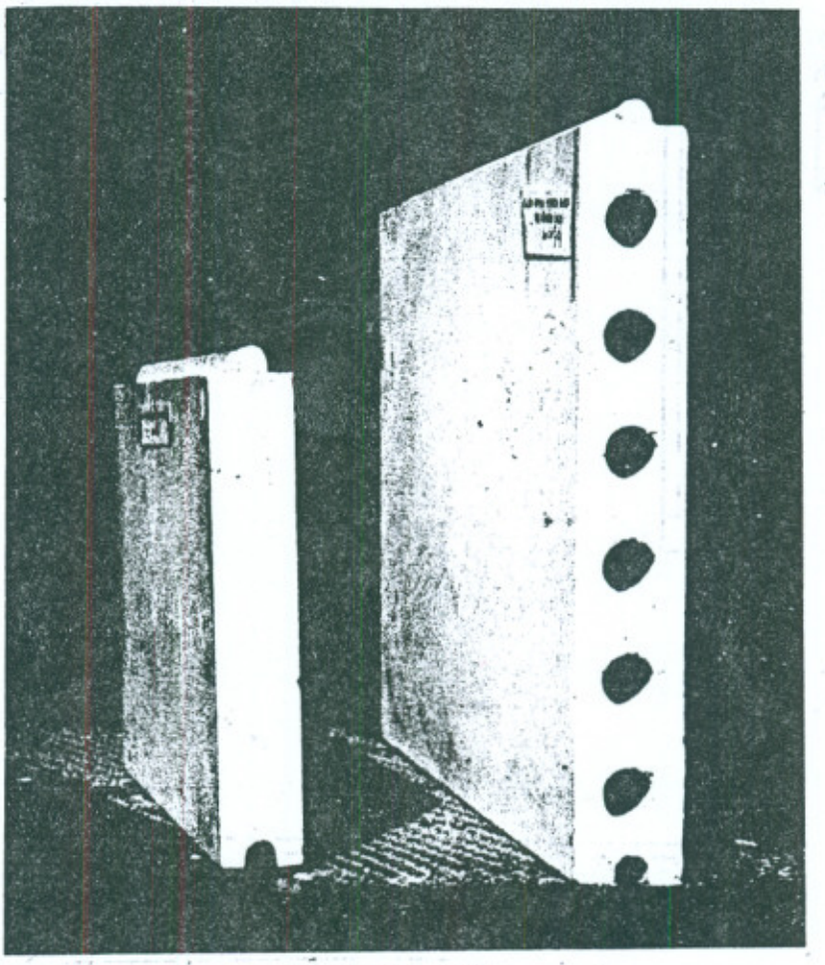
( CONTROLLED & UNCONTROLLED .WITH RETARDERS )



# DIMENSIONS OF GYPSUM BOARD

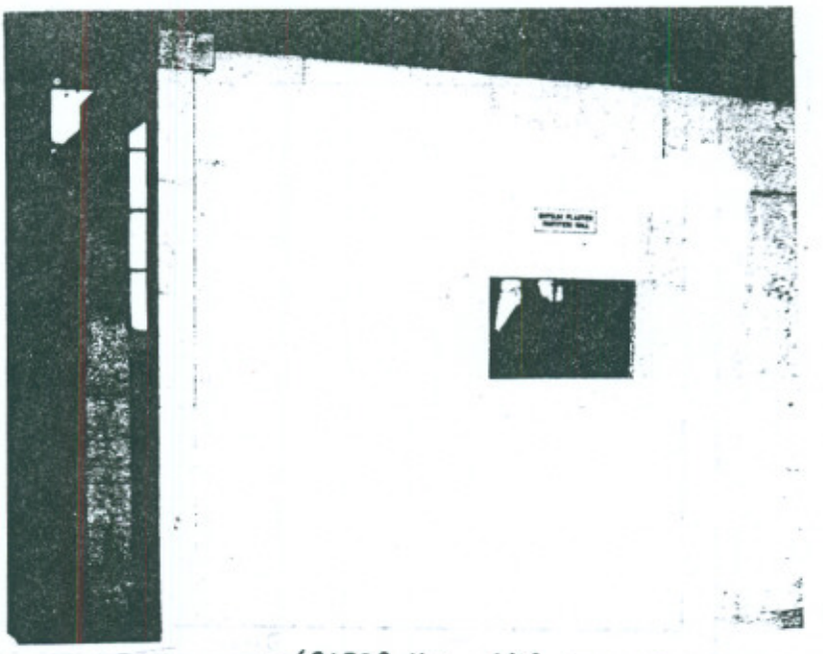
FIG: 2





(PAPER NO. 441)

Fig-3: SOLID / HOLLOW GYPSUM BOARDS

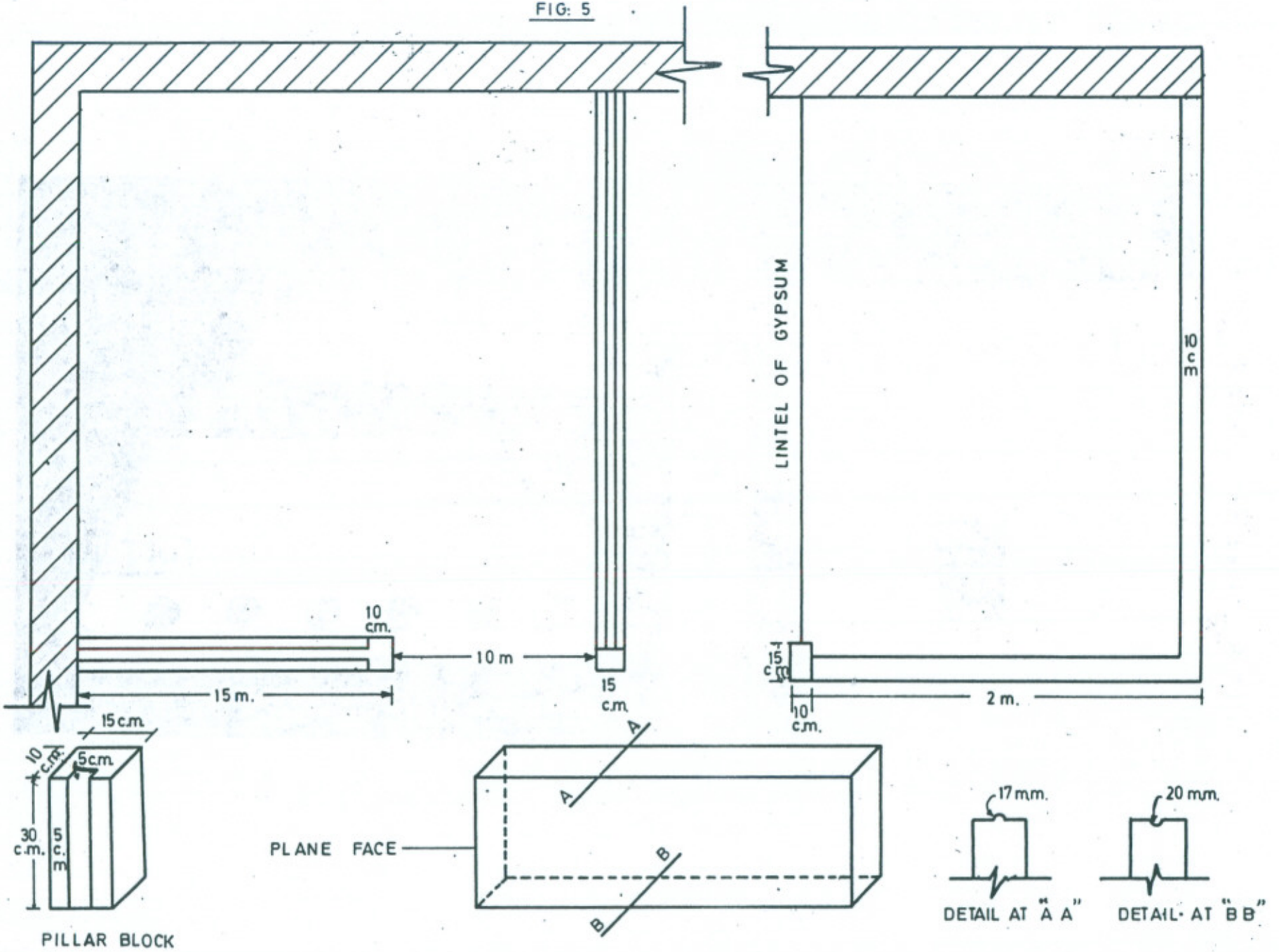


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Fig-4: GYPSUM BOARD PARTITION WALL

# PARTITION WALLS ( PRECAST GYPSUM BLOCKS )

FIG: 5



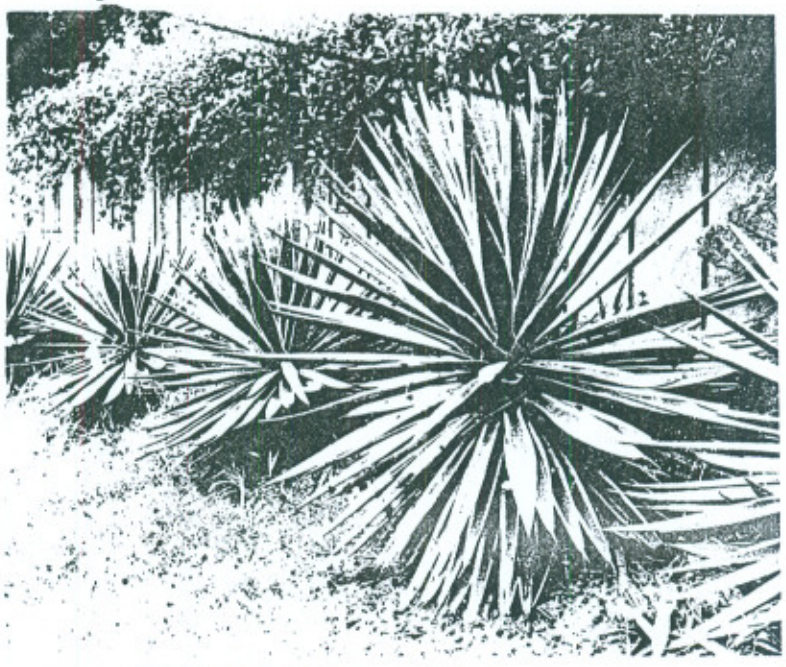
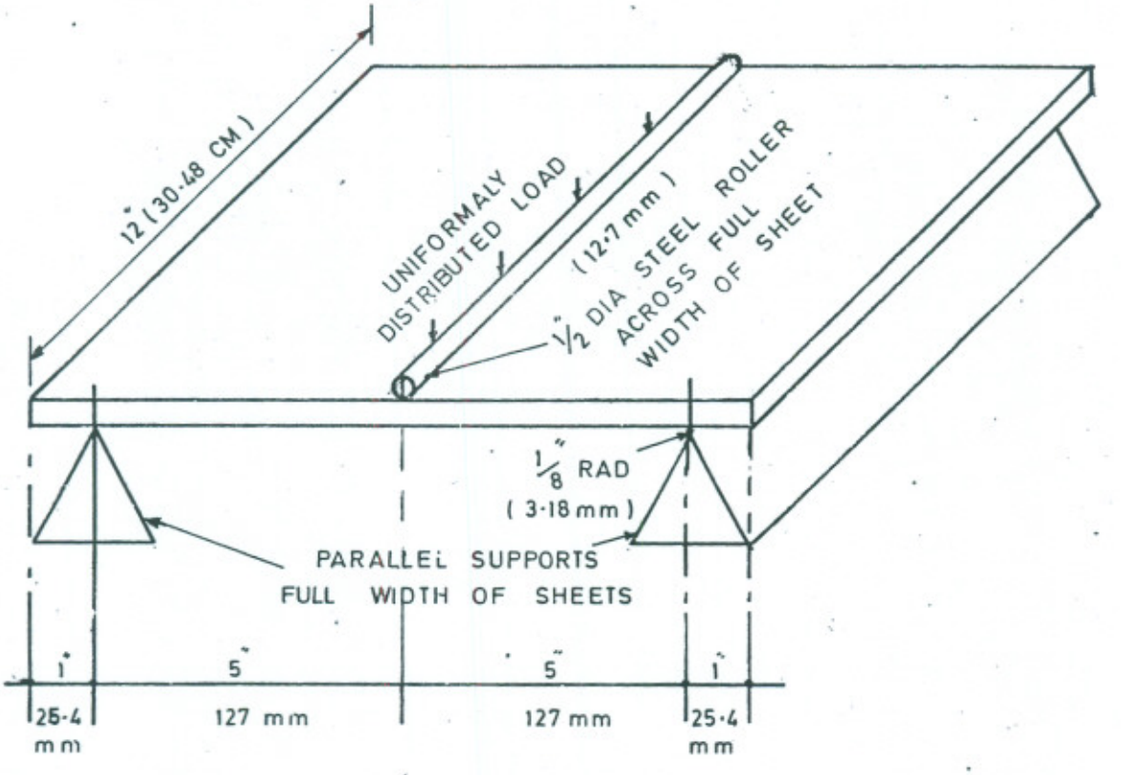


Fig-6: (PAPER NO. 441)

S I S A L  P L A N T

# LAYOUT OF APPARATUS FOR TRANSVERSE BEND TEST

FIG: 7



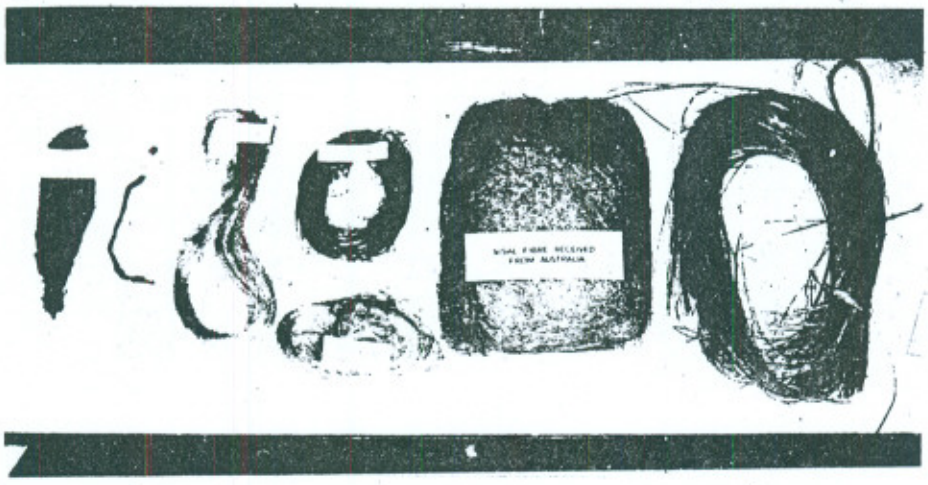


Fig-8: (PAPER NO. 441)
REINFORCING FIBRES

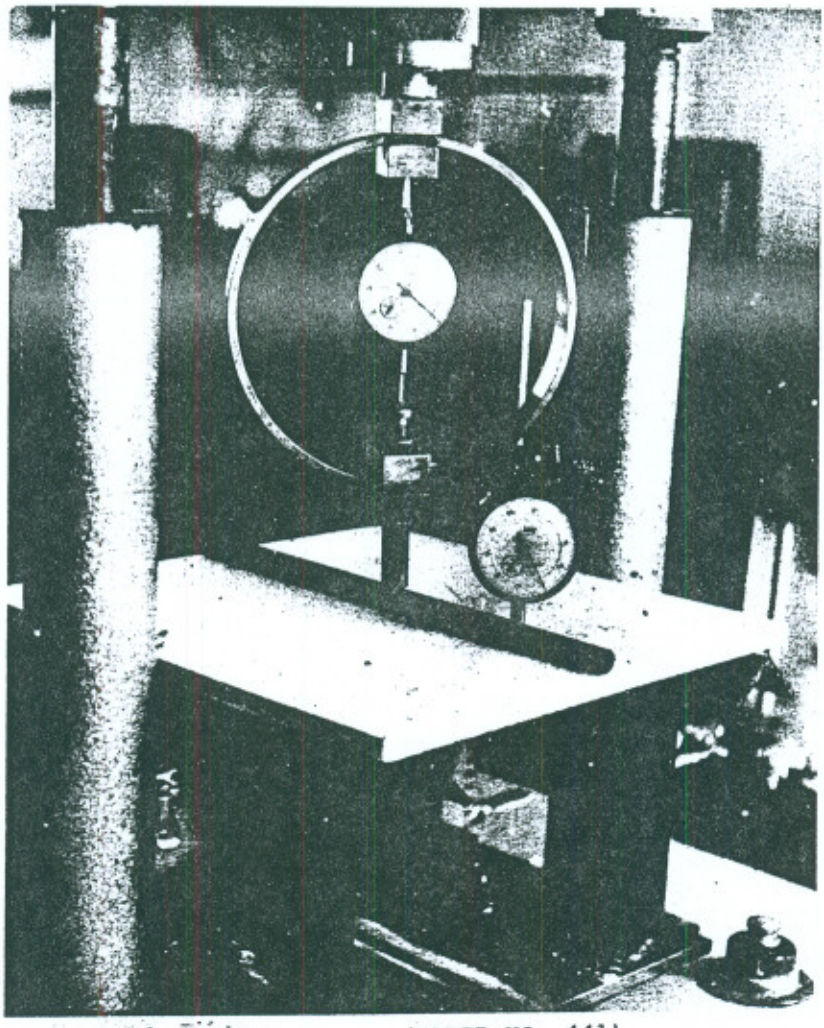


Fig-9: (PAPER NO. 441)
TRANSVERSE BEND TEST

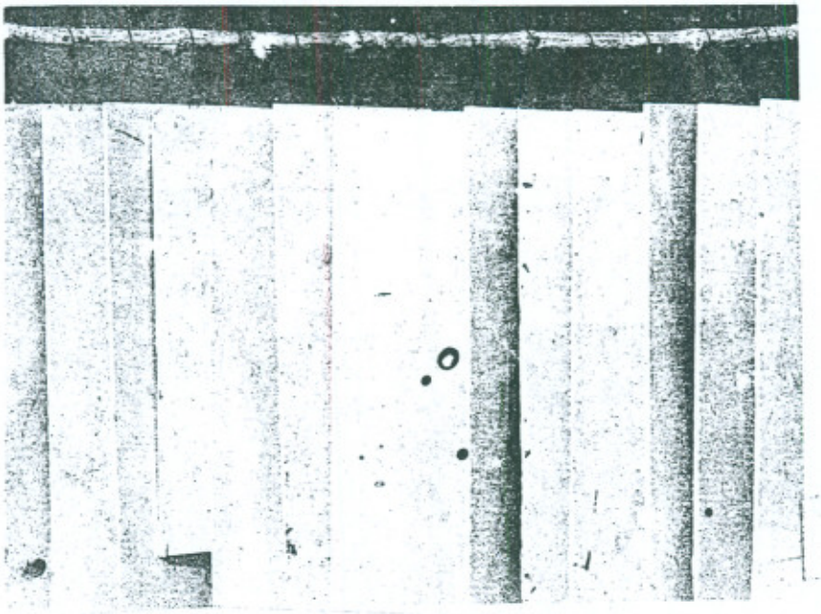
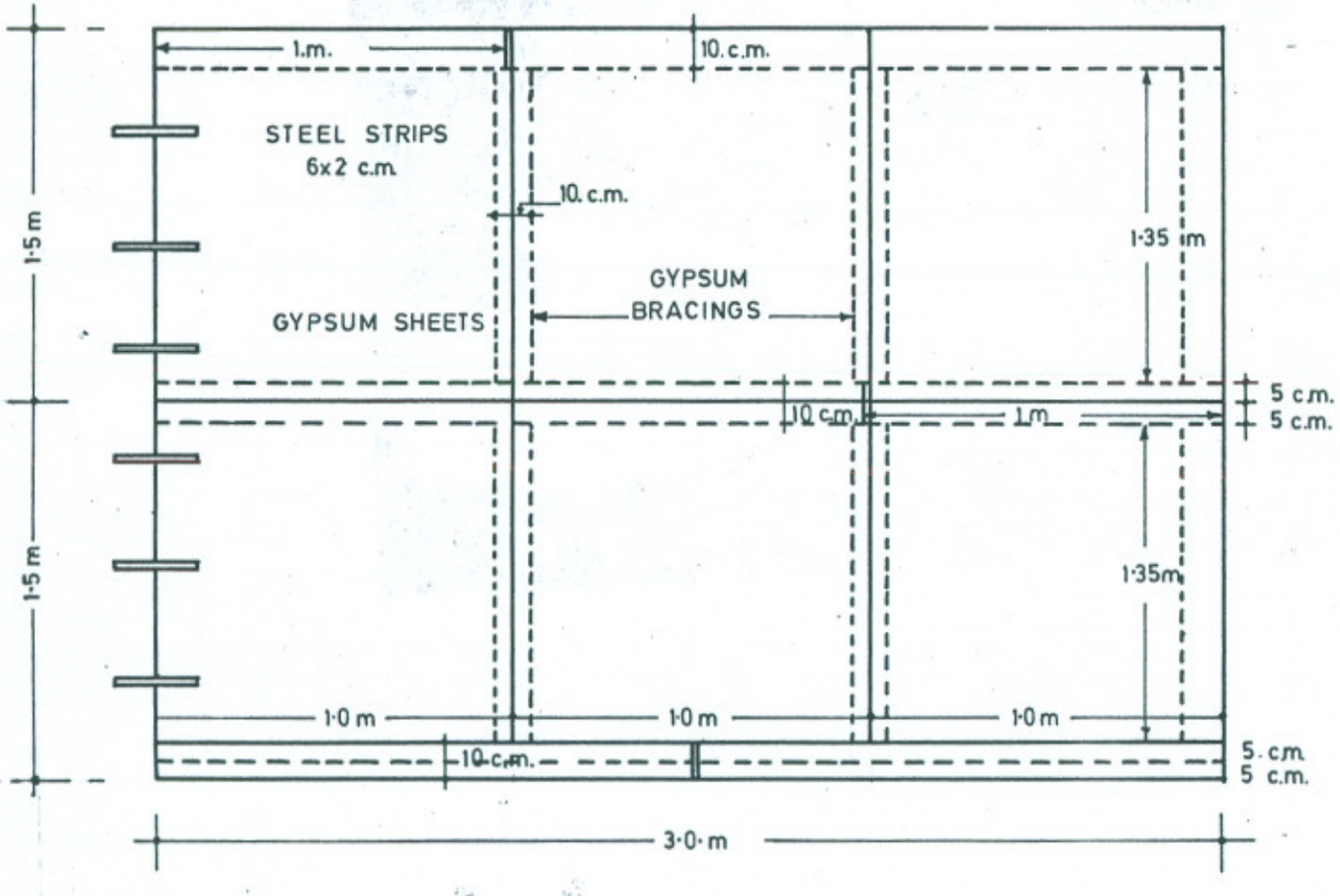


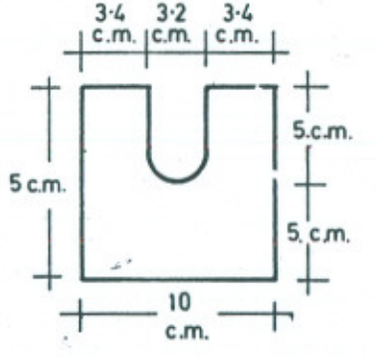
Fig-10 (PAPER NO. -441)
SHEETS OF FIBROUS PLASTER

S. Sibtul Hassan Shah & Ali Mohammad

# GYPSUM SHEET PARTITION WALL

FIG. NO. 11




SCREW SIZE 9 c.m. LONG

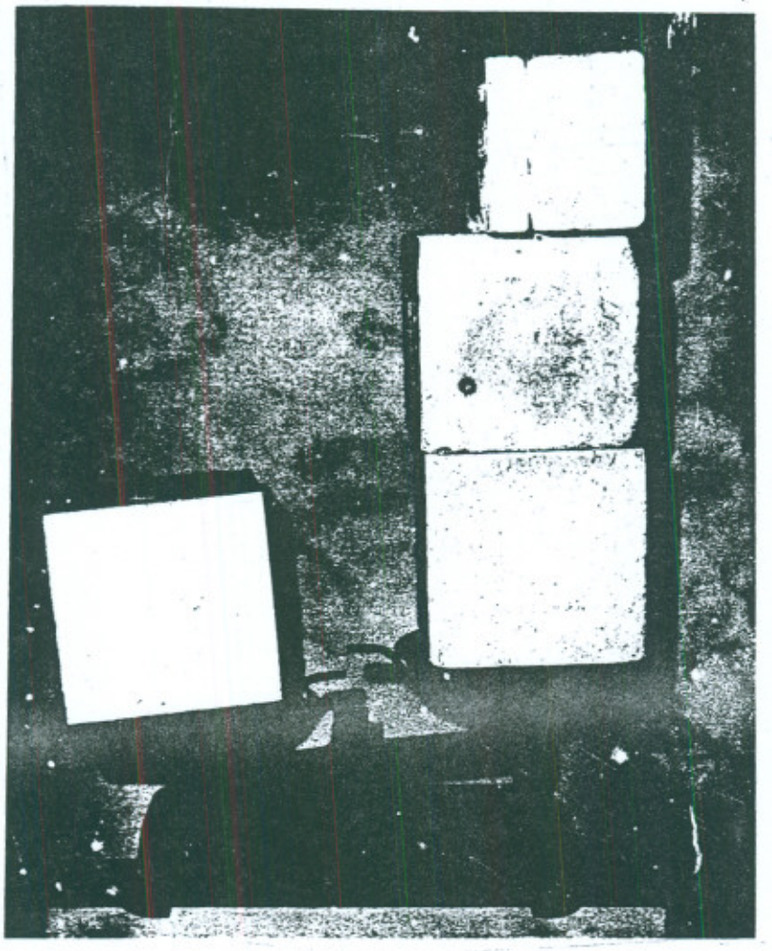


FIG:12

(PAPER NO. 441)
AERATED LIGHT WEIGHT UNITS
VS SOLID GYPSUM