

# PHYSICAL PROPERTIES OF GLASS BLOCKS

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Following information based on a typical 190x190x80 clear glass block.



## GLASS

- Composition : Silica-sand, soda ash, calcium.  
Fusion is obtained at approximately 1550°C.
- Physical characteristics :
  - density : 2.5
  - strength : 10,000 da/Ncm<sup>2</sup> under compression
  - expansion : between +20°C and +220°C =  $9 \times 10^{-6}$

## INSULATING GLASS BLOCKS

Manufactured by heat fusion at more than 800°C of two hollow half-bricks obtained by compression of a glass drop at about 1050°C. These bricks are annealed at 560°C to eliminate internal tensions and contain rarefied air.

## LIGHT TRANSMISSION

- Clear 190x190x80 = 80%
- Coloured 190x190x80 = 60%
- Clear 190x190x100 = 80%
- Clear 240x240x80 = 85%
- Clear 300x300x100 = 84%

## THERMAL TRANSMISSION

- Average value = 2.9 W/m<sup>2</sup>°C : Single Wall  
= 1.3 W/m<sup>2</sup>°C : Double Wall

## THERMAL EXPANSION

- Between +20°C and 220°C =  $9 \times 10^{-6}$

## IMPACT STRENGTH

- 12.0 N/mm - Tested using 50kg sand bag and steel ball bearings  
(DIN requires 6.8 N/mm)

## COMPRESSIVE STRENGTH

- 18.0 N/mm<sup>2</sup> (EN 1051 requires 7.5 N/mm<sup>2</sup>)

## SOUND TRANSMISSIONS

- Rw = 42dB depending on frequency.

## FIRE RATING

- Clear La Rochere 190x190x80 = 1 hour integrity, 1/4 hour thermal isolation
- Clear Weck SHS 190x190x100 = 2 hour integrity, 1/2 hour thermal isolation