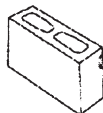
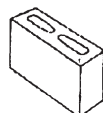
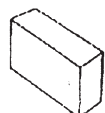




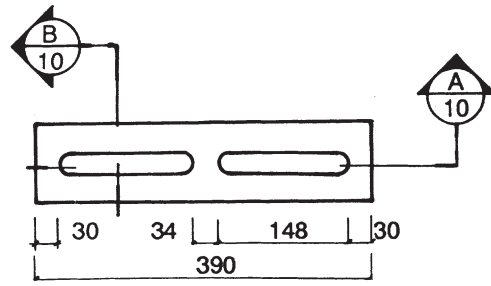
# Physical Properties

| PHYSICAL PROPERTIES OF<br>STANDARD METRIC SIZE BLOCK |                                                       |        |                                                                                     | SIZE CODE<br>10                                                                     |                                                                                     |       |
|------------------------------------------------------|-------------------------------------------------------|--------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------|
| ACTUAL DIMENSIONS (mm)                               |                                                       | NOTES* | STANDARD CONFIGURATION                                                              |                                                                                     |                                                                                     |       |
| Width 90                                             | Length 390                                            |        | Height 190                                                                          | HOLLOW                                                                              | 75% SOLID                                                                           | SOLID |
| P R O P E R T I E S                                  |                                                       |        |  |  |  |       |
| <b>Dimensions (mm)</b>                               | Minimum Face Shell Thickness                          | 1      | 26                                                                                  | 30                                                                                  | N/A                                                                                 |       |
|                                                      | Minimum Web Thickness                                 | 1      | 26                                                                                  | 26                                                                                  | N/A                                                                                 |       |
|                                                      | Equivalent Thickness                                  | 2      | 66                                                                                  | 74                                                                                  | 90                                                                                  |       |
| <b>Area (mm²)</b>                                    | Gross Area                                            | 3      | 3.51 x 10⁴                                                                          | 3.51 x 10⁴                                                                          | 3.51 x 10⁴                                                                          |       |
|                                                      | Net Area                                              | 4      | 2.56 x 10⁴                                                                          | 2.88 x 10⁴                                                                          | 3.51 x 10⁴                                                                          |       |
|                                                      | Core Area                                             | 5      | 4.75 x 10³                                                                          | 3.15 x 10³                                                                          | N/A                                                                                 |       |
| <b>Volume (mm³)</b>                                  | Gross Volume                                          | 6      | 6.669 x 10⁶                                                                         | 6.669 x 10⁶                                                                         | 6.669 x 10⁶                                                                         |       |
|                                                      | Net Volume                                            | 7      | 4.868 x 10⁶                                                                         | 5.469 x 10⁶                                                                         | 6.669 x 10⁶                                                                         |       |
| <b>Percent Solid (%)</b>                             | Net Volume/Gross Volume                               |        | 73%                                                                                 | 82%                                                                                 | 100%                                                                                |       |
| <b>Typical Unit Mass (kg)</b>                        | CSA “A” - Type “A” Concrete                           | 8      | 10.2                                                                                | 11.5                                                                                | 14.0                                                                                |       |
|                                                      | CSA “C” - Type “C” Concrete                           |        | 8.5                                                                                 | 9.7                                                                                 | 11.7                                                                                |       |
|                                                      | CSA “D” - Type “D” Concrete                           |        | 8.0                                                                                 | 9.0                                                                                 | 11.0                                                                                |       |
| <b>Typical Wall Mass (kg/m²)<br/>(with mortar)</b>   | CSA “A” - Type “A” Concrete                           |        | 138                                                                                 | 155                                                                                 | 189                                                                                 |       |
|                                                      | CSA “C” - Type “C” Concrete                           |        | 115                                                                                 | 130                                                                                 | 158                                                                                 |       |
|                                                      | CSA “D” - Type “D” Concrete                           |        | 109                                                                                 | 122                                                                                 | 149                                                                                 |       |
| <b>Minimum Compressive<br/>Strength (Mpa)</b>        | Based on Net Area                                     |        | 15.0                                                                                | 15.0                                                                                | 15.0                                                                                |       |
|                                                      | Based on Gross Area                                   |        | 10.95                                                                               | 12.3                                                                                | 15.0                                                                                |       |
| <b>Fire Performance Rating<br/>(hours)</b>           | Normal Weight - N.B.C.                                | 9      | 0.8                                                                                 | 1.1                                                                                 | 1.4                                                                                 |       |
|                                                      | Light Weight - N.B.C.<br>-L₂20S                       |        | 1.1                                                                                 | 1.3                                                                                 | 1.8                                                                                 |       |
| <b>Sound Properties</b>                              | Sound Transmission Class - (STC)                      | 10     |                                                                                     |                                                                                     |                                                                                     |       |
|                                                      | -CSA Type “A” Concrete<br>-CSA Type “C”, “D” Concrete |        | 43<br>40                                                                            | 45<br>42                                                                            | 47<br>45                                                                            |       |
| <b>Thermal Properties (m² °C/W)</b>                  | RSI Factors                                           | 11     |                                                                                     |                                                                                     |                                                                                     |       |
|                                                      | -CSA Type “A” Concrete                                |        | .17                                                                                 | N/A                                                                                 | N/A                                                                                 |       |
|                                                      | -CSA Type “C”, “D” Concrete                           |        | .24                                                                                 | N/A                                                                                 | N/A                                                                                 |       |
| <b>Moment of Inertia (mm⁴)</b>                       | Per Block I                                           |        | 22.69 x 10⁶                                                                         | 23.25 x 10⁶                                                                         | 23.69 x 10⁶                                                                         |       |
|                                                      | Per Metre Im                                          |        | 58.18 x 10⁶                                                                         | 59.61 x 10⁶                                                                         | 60.75 x 10⁶                                                                         |       |
| <b>Section Modulus (mm³)</b>                         | Per Block S                                           |        | 0.504 x 10⁶                                                                         | 0.517 x 10⁶                                                                         | 0.527 x 10⁶                                                                         |       |
|                                                      | Per Block Sm                                          |        | 1.293 x 10⁶                                                                         | 1.324 x 10⁶                                                                         | 1.350 x 10⁶                                                                         |       |

\* Information to be used in conjunction with explanatory notes on Page 4-11

# Canadian Concrete Masonry Producers' Association

## Physical Properties

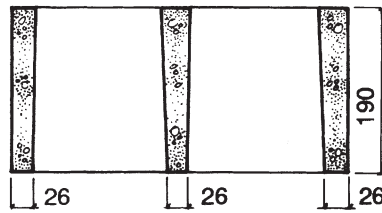


CCMPA METRIC  
SIZE CODE

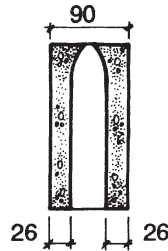
**10**

**HOLLOW**  
Dimensions in mm

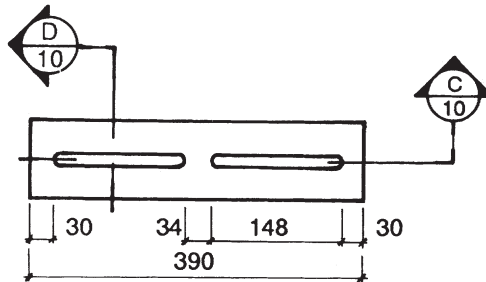
PLAN



SECTION A-10



SECTION B-10

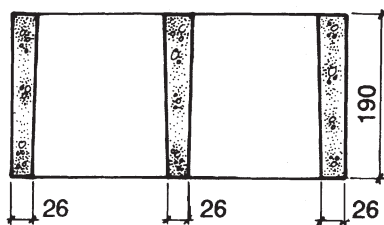


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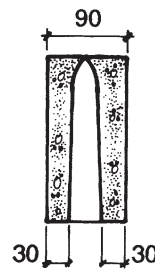
**10**

**75% SOLID**  
Dimensions in mm

PLAN

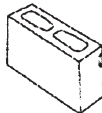
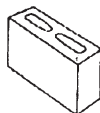
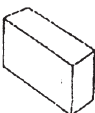


SECTION C-10



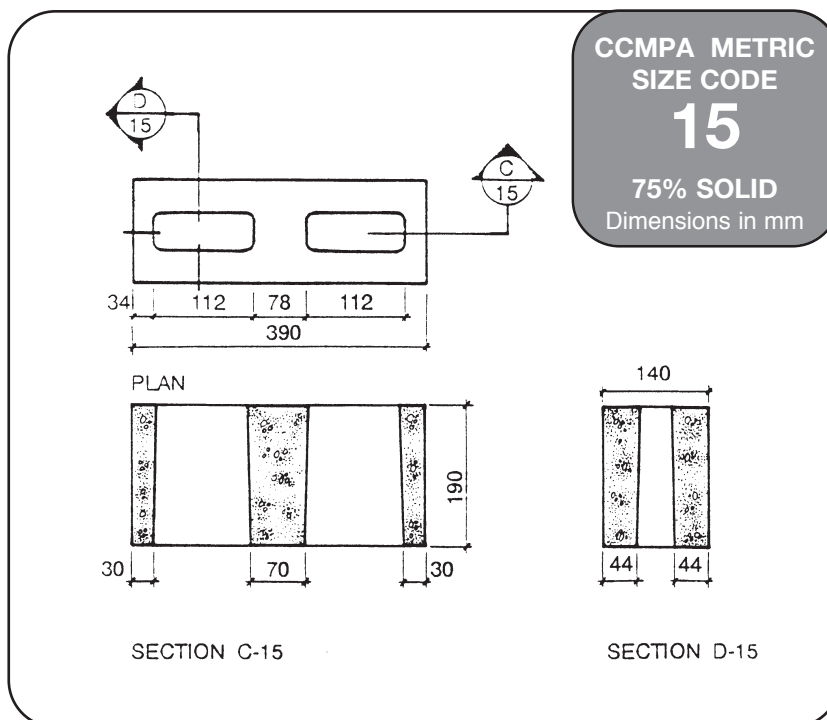
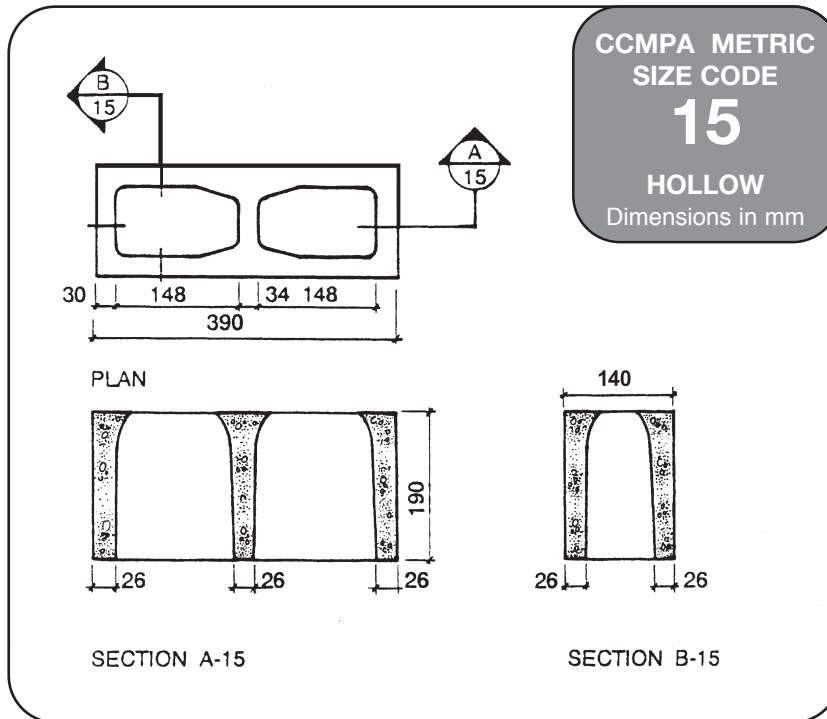
SECTION D-10

# Physical Properties

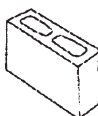
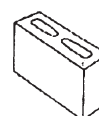
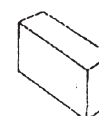
| PHYSICAL PROPERTIES OF<br>STANDARD METRIC SIZE BLOCK |                                                       |        |                                                                                     | SIZE CODE<br>15                                                                     |                                                                                     |       |
|------------------------------------------------------|-------------------------------------------------------|--------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------|
| ACTUAL DIMENSIONS (mm)                               |                                                       | NOTES* | STANDARD CONFIGURATION                                                              |                                                                                     |                                                                                     |       |
| Width 140                                            | Length 390                                            |        | Height 190                                                                          | HOLLOW                                                                              | 75% SOLID                                                                           | SOLID |
| PROPERTIES                                           |                                                       |        |  |  |  |       |
| <b>Dimensions (mm)</b>                               | Minimum Face Shell Thickness                          | 1      | 26                                                                                  | 44                                                                                  | N/A                                                                                 |       |
|                                                      | Minimum Web Thickness                                 | 1      | 26                                                                                  | 30                                                                                  | N/A                                                                                 |       |
|                                                      | Equivalent Thickness                                  | 2      | 81                                                                                  | 112                                                                                 | 140                                                                                 |       |
| <b>Area (mm²)</b>                                    | Gross Area                                            | 3      | 5.46 x 10⁴                                                                          | 5.46 x 10⁴                                                                          | 5.46 x 10⁴                                                                          |       |
|                                                      | Net Area                                              | 4      | 3.17 x 10⁴                                                                          | 4.37 x 10⁴                                                                          | 5.46 x 10⁴                                                                          |       |
|                                                      | Core Area                                             | 5      | 1.145 x 10⁴                                                                         | 5.45x 10³                                                                           | N/A                                                                                 |       |
| <b>Volume (mm³)</b>                                  | Gross Volume                                          | 6      | 10.374 x 10⁶                                                                        | 10.374 x 10⁶                                                                        | 10.374 x 10⁶                                                                        |       |
|                                                      | Net Volume                                            | 7      | 6.017 x 10⁶                                                                         | 8.299 x 10⁶                                                                         | 10.374 x 10⁶                                                                        |       |
| <b>Percent Solid (%)</b>                             | Net Volume/Gross Volume                               |        | 58%                                                                                 | 80%                                                                                 | 100%                                                                                |       |
| <b>Typical Unit Mass (kg)</b>                        | CSA “A” - Type “A” Concrete                           | 8      | 12.6                                                                                | 17.4                                                                                | 23.3                                                                                |       |
|                                                      | CSA “C” - Type “C” Concrete                           |        | 11.3                                                                                | 15.6                                                                                | 19.5                                                                                |       |
|                                                      | CSA “D” - Type “D” Concrete                           |        | 10.6                                                                                | 14.6                                                                                | 18.3                                                                                |       |
| <b>Typical Wall Mass (kg/m²)<br/>(with mortar)</b>   | CSA “A” - Type “A” Concrete                           | 8      | 170                                                                                 | 235                                                                                 | 315                                                                                 |       |
|                                                      | CSA “C” - Type “C” Concrete                           |        | 153                                                                                 | 210                                                                                 | 263                                                                                 |       |
|                                                      | CSA “D” - Type “D” Concrete                           |        | 144                                                                                 | 198                                                                                 | 248                                                                                 |       |
| <b>Minimum Compressive Strength (Mpa)</b>            | Based on Net Area                                     | 10     | 15.0                                                                                | 15.0                                                                                | 15.0                                                                                |       |
|                                                      | Based on Gross Area                                   |        | 8.7                                                                                 | 12.0                                                                                | 15.0                                                                                |       |
| <b>Fire Performance Rating (Hours)</b>               | Normal Weight - N.B.C.                                | 9      | 1.1                                                                                 | 2.0                                                                                 | 2.9                                                                                 |       |
|                                                      | Light Weight - N.B.C.<br>-L₂20S                       |        | 1.5                                                                                 | 2.8                                                                                 | 4+                                                                                  |       |
| <b>Sound Properties</b>                              | Sound Transmission Class - (STC)                      | 10     |                                                                                     |                                                                                     |                                                                                     |       |
|                                                      | -CSA Type “A” Concrete<br>-CSA Type “C”, “D” Concrete |        | 46<br>43                                                                            | 50<br>47                                                                            | 52<br>50                                                                            |       |
| <b>Thermal Properties (m² °C/W)</b>                  | RSI Factors                                           | 11     |                                                                                     |                                                                                     |                                                                                     |       |
|                                                      | -CSA Type “A” Concrete<br>-CSA Type “C”, “D” Concrete |        | .19<br>.26                                                                          | N/A<br>N/A                                                                          | N/A<br>N/A                                                                          |       |
| <b>Moment of Inertia (mm⁴)</b>                       | Per Block I                                           |        | 74.07 x 10⁶                                                                         | 86.86 x 10⁶                                                                         | 89.18 x 10⁶                                                                         |       |
|                                                      | Per Metre Im                                          |        | 189.9 x 10⁶                                                                         | 222.7 x 10⁶                                                                         | 228.7 x 10⁶                                                                         |       |
| <b>Section Modulus (mm³)</b>                         | Per Block S                                           |        | 1.058 x 10⁶                                                                         | 1.241 x 10⁶                                                                         | 1.274 x 10⁶                                                                         |       |
|                                                      | Per Block Sm                                          |        | 2.713 x 10⁶                                                                         | 3.182 x 10⁶                                                                         | 3.267 x 10⁶                                                                         |       |

\* Information to be used in conjunction with explanatory notes on Page 4-11

# Physical Properties

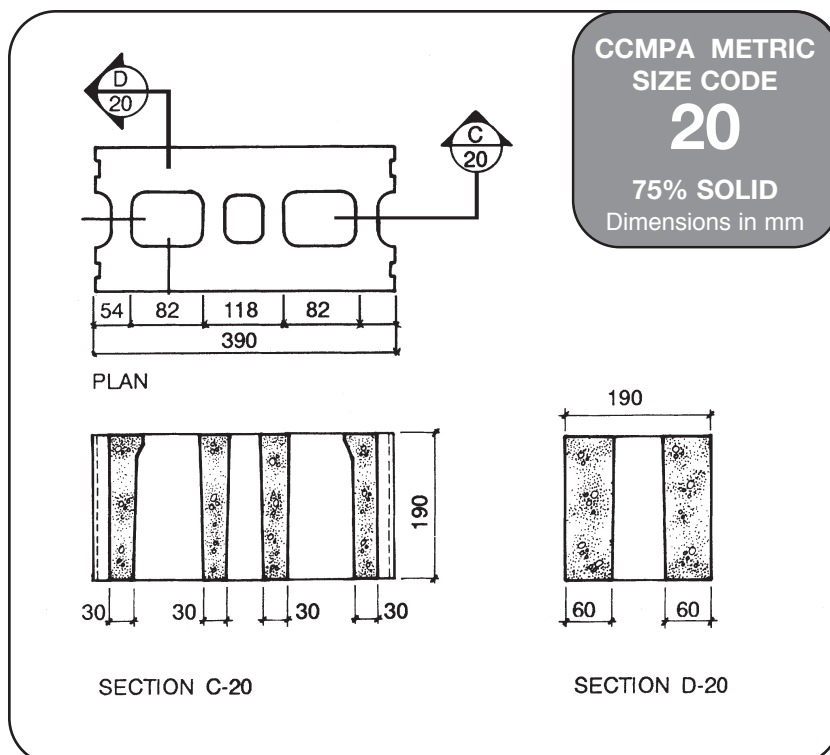
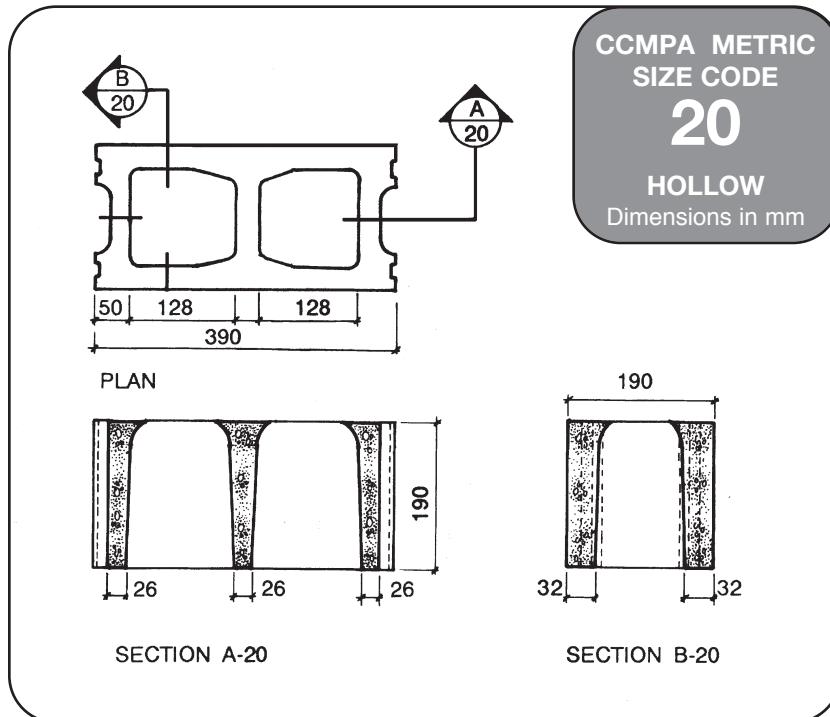


# Physical Properties

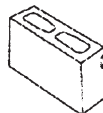
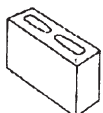
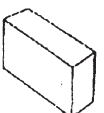
| PHYSICAL PROPERTIES OF<br>STANDARD METRIC SIZE BLOCK |                                  |        |                                                                                     | SIZE CODE<br>20                                                                     |                                                                                     |       |
|------------------------------------------------------|----------------------------------|--------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------|
| ACTUAL DIMENSIONS (mm)                               |                                  | NOTES* | STANDARD CONFIGURATION                                                              |                                                                                     |                                                                                     |       |
| Width 190                                            | Length 390                       |        | Height 190                                                                          | HOLLOW                                                                              | 75% SOLID                                                                           | SOLID |
| PROPERTIES                                           |                                  |        |  |  |  |       |
| Dimensions (mm)                                      | Minimum Face Shell Thickness     | 1      | 32                                                                                  | 60                                                                                  | N/A                                                                                 |       |
|                                                      | Minimum Web Thickness            | 1      | 26                                                                                  | 30                                                                                  | N/A                                                                                 |       |
|                                                      | Equivalent Thickness             | 2      | 106                                                                                 | 148                                                                                 | 190                                                                                 |       |
| Area (mm²)                                           | Gross Area                       | 3      | 7.41 x 10⁴                                                                          | 7.41 x 10⁴                                                                          | 7.41 x 10⁴                                                                          |       |
|                                                      | Net Area                         | 4      | 4.15 x 10⁴                                                                          | 5.78 x 10⁴                                                                          | 7.41 x 10⁴                                                                          |       |
|                                                      | Core Area                        | 5      | 1.53 x 10⁴                                                                          | 6.75 x 10³                                                                          | N/A                                                                                 |       |
| Volume (mm³)                                         | Gross Volume                     | 6      | 14.079 x 10⁶                                                                        | 14.079 x 10⁶                                                                        | 14.079 x 10⁶                                                                        |       |
|                                                      | Net Volume                       | 7      | 7.88 x 10⁶                                                                          | 10.97 x 10⁶                                                                         | 14.08 x 10⁶                                                                         |       |
| Percent Solid (%)                                    | Net Volume/Gross Volume          |        | 56%                                                                                 | 78%                                                                                 | 100%                                                                                |       |
| Typical Unit Mass (kg)                               | CSA “A” - Type “A” Concrete      | 8      | 16.5                                                                                | 23.0                                                                                | 29.6                                                                                |       |
|                                                      | CSA “C” - Type “C” Concrete      |        | 13.8                                                                                | 19.2                                                                                | 24.6                                                                                |       |
|                                                      | CSA “D” - Type “D” Concrete      |        | 13.2                                                                                | 18.4                                                                                | 23.6                                                                                |       |
| Typical Wall Mass (kg/m²)<br>(with mortar)           | CSA “A” - Type “A” Concrete      |        | 223.0                                                                               | 311.0                                                                               | 399.0                                                                               |       |
|                                                      | CSA “C” - Type “C” Concrete      |        | 186.2                                                                               | 259.4                                                                               | 332.5                                                                               |       |
|                                                      | CSA “D” - Type “D” Concrete      |        | 175.6                                                                               | 244.5                                                                               | 313.5                                                                               |       |
| Minimum Compressive<br>Strength (Mpa)                | Based on Net Area                |        | 15.0                                                                                | 15.0                                                                                | 15.0                                                                                |       |
|                                                      | Based on Gross Area              |        | 8.4                                                                                 | 11.7                                                                                | 15.0                                                                                |       |
| Fire Performance Rating<br>(Hours)                   | Normal Weight - N.B.C.           | 9      | 1.8                                                                                 | 3.2                                                                                 | 4+                                                                                  |       |
|                                                      | Light Weight - N.B.C.<br>-L₂20S  |        | 2.5                                                                                 | 4+                                                                                  | 4+                                                                                  |       |
| Sound Properties                                     | Sound Transmission Class - (STC) | 10     |                                                                                     |                                                                                     |                                                                                     |       |
|                                                      | -CSA Type “A” Concrete           |        | 50                                                                                  | 53                                                                                  | 56                                                                                  |       |
|                                                      | -CSA Type “C”, “D” Concrete      |        | 46                                                                                  | 51                                                                                  | 53                                                                                  |       |
| Thermal Properties (m² °C/W)                         | RSI Factors                      | 11     |                                                                                     |                                                                                     |                                                                                     |       |
|                                                      | -CSA Type “A” Concrete           |        | .21                                                                                 | N/A                                                                                 | N/A                                                                                 |       |
|                                                      | -CSA Type “C”, “D” Concrete      |        | .30                                                                                 | N/A                                                                                 | N/A                                                                                 |       |
| Moment of Inertia (mm⁴)                              | Per Block I                      |        | 194.2 x 10⁶                                                                         | 217.1 x 10⁶                                                                         | 222.9 x 10⁶                                                                         |       |
|                                                      | Per Metre Im                     |        | 498.0 x 10⁶                                                                         | 556.6 x 10⁶                                                                         | 571.6 x 10⁶                                                                         |       |
| Section Modulus (mm³)                                | Per Block S                      |        | 2.045 x 10⁶                                                                         | 2.285 x 10⁶                                                                         | 2.347 x 10⁶                                                                         |       |
|                                                      | Per Block Sm                     |        | 5.242 x 10⁶                                                                         | 5.859 x 10⁶                                                                         | 6.017 x 10⁶                                                                         |       |

\* Information to be used in conjunction with explanatory notes on Page 4-11

# Physical Properties



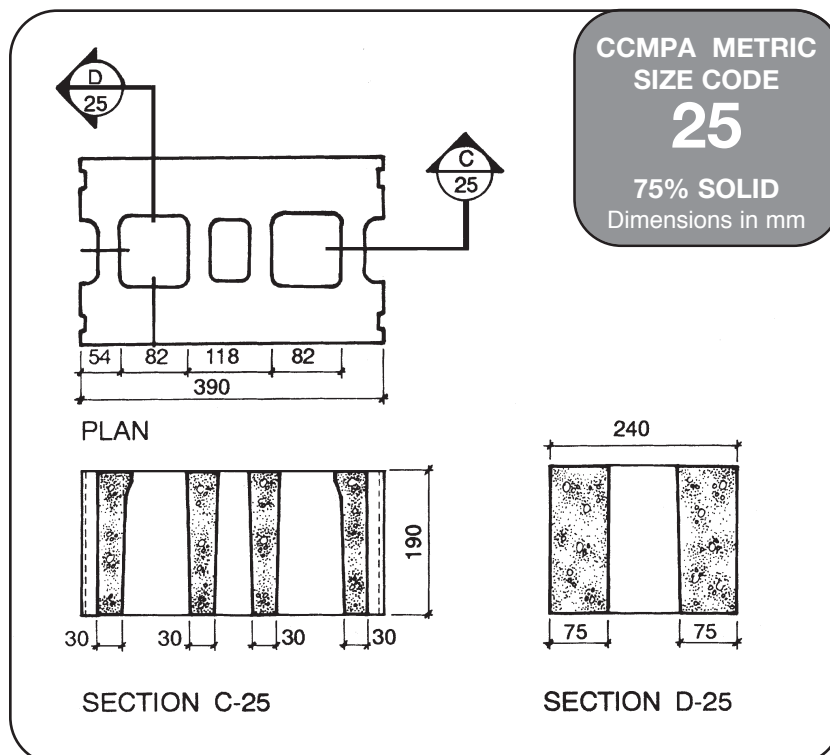
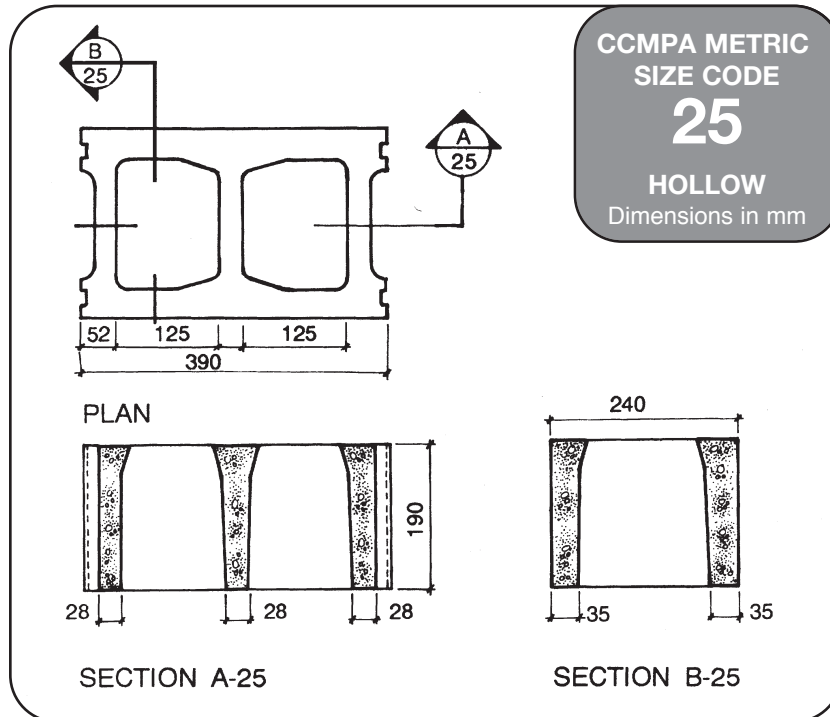
# Physical Properties

| PHYSICAL PROPERTIES OF<br>STANDARD METRIC SIZE BLOCK    |                                                       |        |                                                                                     | SIZE CODE<br>25                                                                     |                                                                                     |       |
|---------------------------------------------------------|-------------------------------------------------------|--------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------|
| ACTUAL DIMENSIONS (mm)                                  |                                                       | NOTES* | STANDARD CONFIGURATION                                                              |                                                                                     |                                                                                     |       |
| Width 240                                               | Length 390                                            |        | Height 190                                                                          | HOLLOW                                                                              | 75% SOLID                                                                           | SOLID |
| PROPERTIES                                              |                                                       |        |  |  |  |       |
| Dimensions (mm)                                         | Minimum Face Shell Thickness                          | 1      | 35                                                                                  | 75                                                                                  | N/A                                                                                 |       |
|                                                         | Minimum Web Thickness                                 | 1      | 28                                                                                  | 30                                                                                  | N/A                                                                                 |       |
|                                                         | Equivalent Thickness                                  | 2      | 127                                                                                 | 187                                                                                 | 240                                                                                 |       |
| Area (mm2)                                              | Gross Area                                            | 3      | 9.36 x 10 <sup>4</sup>                                                              | 9.36 x 10 <sup>4</sup>                                                              | 9.36 x 10 <sup>4</sup>                                                              |       |
|                                                         | Net Area                                              | 4      | 4.96 x 10 <sup>4</sup>                                                              | 7.30 x 10 <sup>4</sup>                                                              | 9.36 x 10 <sup>4</sup>                                                              |       |
|                                                         | Core Area                                             | 5      | 2.06 x 10 <sup>4</sup>                                                              | 8.80 x 10 <sup>3</sup>                                                              | N/A                                                                                 |       |
| Volume (mm3)                                            | Gross Volume                                          | 6      | 17.784 x 10 <sup>6</sup>                                                            | 17.784 x 10 <sup>6</sup>                                                            | 17.784 x 10 <sup>6</sup>                                                            |       |
|                                                         | Net Volume                                            | 7      | 9.43 x 10 <sup>6</sup>                                                              | 13.87 x 10 <sup>6</sup>                                                             | 17.78 x 10 <sup>6</sup>                                                             |       |
| Percent Solid (%)                                       | Net Volume/Gross Volume                               |        | 53%                                                                                 | 78%                                                                                 | 100%                                                                                |       |
| Typical Unit Mass (kg)                                  | CSA “A” - Type “A” Concrete                           | 8      | 20.6                                                                                | 30.3                                                                                | 38.9                                                                                |       |
|                                                         | CSA “C” - Type “C” Concrete                           |        | 17.2                                                                                | 25.3                                                                                | 32.4                                                                                |       |
|                                                         | CSA “D” - Type “D” Concrete                           |        | 16.2                                                                                | 23.8                                                                                | 30.6                                                                                |       |
| Typical Wall Mass (kg/m <sup>2</sup> )<br>(with mortar) | CSA “A” - Type “A” Concrete                           |        | 278.3                                                                               | 409.5                                                                               | 525.0                                                                               |       |
|                                                         | CSA “C” - Type “C” Concrete                           |        | 231.9                                                                               | 341.3                                                                               | 437.5                                                                               |       |
|                                                         | CSA “D” - Type “D” Concrete                           |        | 218.4                                                                               | 321.8                                                                               | 412.0                                                                               |       |
| Minimum Compressive Strength (Mpa)                      | Based on Net Area                                     |        | 15.0                                                                                | 15.0                                                                                | 15.0                                                                                |       |
|                                                         | Based on Gross Area                                   |        | 7.9                                                                                 | 11.7                                                                                | 15.0                                                                                |       |
| Fire Performance Rating (Hours)                         | Normal Weight - N.B.C.                                | 9      | 2.4                                                                                 | 4+                                                                                  | 4+                                                                                  |       |
|                                                         | Light Weight - N.B.C.<br>-L <sub>2</sub> 20S          |        | 3.5                                                                                 | 4+                                                                                  | 4+                                                                                  |       |
| Sound Properties                                        | Sound Transmission Class - (STC)                      | 10     |                                                                                     |                                                                                     |                                                                                     |       |
|                                                         | -CSA Type “A” Concrete<br>-CSA Type “C”, “D” Concrete |        | 51<br>49                                                                            | 56<br>53                                                                            | 58<br>56                                                                            |       |
| Thermal Properties (m <sup>2</sup> °C/W)                | RSI Factors                                           | 11     |                                                                                     |                                                                                     |                                                                                     |       |
|                                                         | -CSA Type “A” Concrete                                |        | .24                                                                                 | N/A                                                                                 | N/A                                                                                 |       |
|                                                         | -CSA Type “C”, “D” Concrete                           |        | .33                                                                                 | N/A                                                                                 | N/A                                                                                 |       |
| Moment of Inertia (mm <sup>4</sup> )                    | Per Block I                                           |        | 334.9 x 10 <sup>6</sup>                                                             | 437.0 x 10 <sup>6</sup>                                                             | 449.3 x 10 <sup>6</sup>                                                             |       |
|                                                         | Per Metre I <sub>m</sub>                              |        | 858.8 x 10 <sup>6</sup>                                                             | 1131 x 10 <sup>6</sup>                                                              | 1152 x 10 <sup>6</sup>                                                              |       |
| Section Modulus (mm <sup>3</sup> )                      | Per Block S                                           |        | 2.791 x 10 <sup>6</sup>                                                             | 3.642 x 10 <sup>6</sup>                                                             | 3.744 x 10 <sup>6</sup>                                                             |       |
|                                                         | Per Block S <sub>m</sub>                              |        | 7.156 x 10 <sup>6</sup>                                                             | 9.338 x 10 <sup>6</sup>                                                             | 9.600 x 10 <sup>6</sup>                                                             |       |

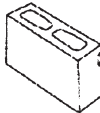
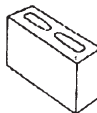
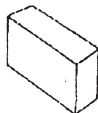
\* Information to be used in conjunction with explanatory notes on Page 4-11



# Physical Properties

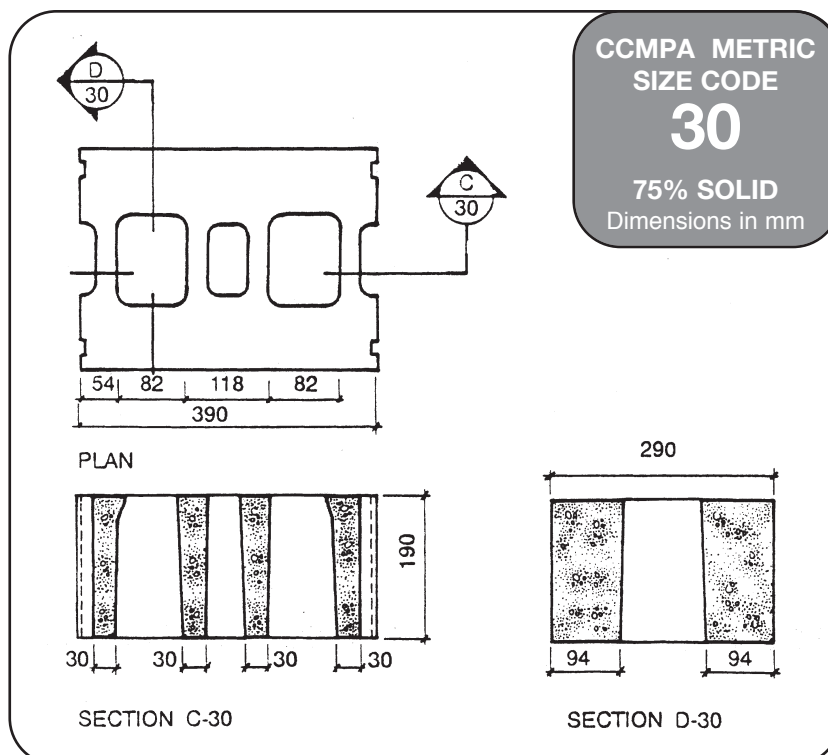
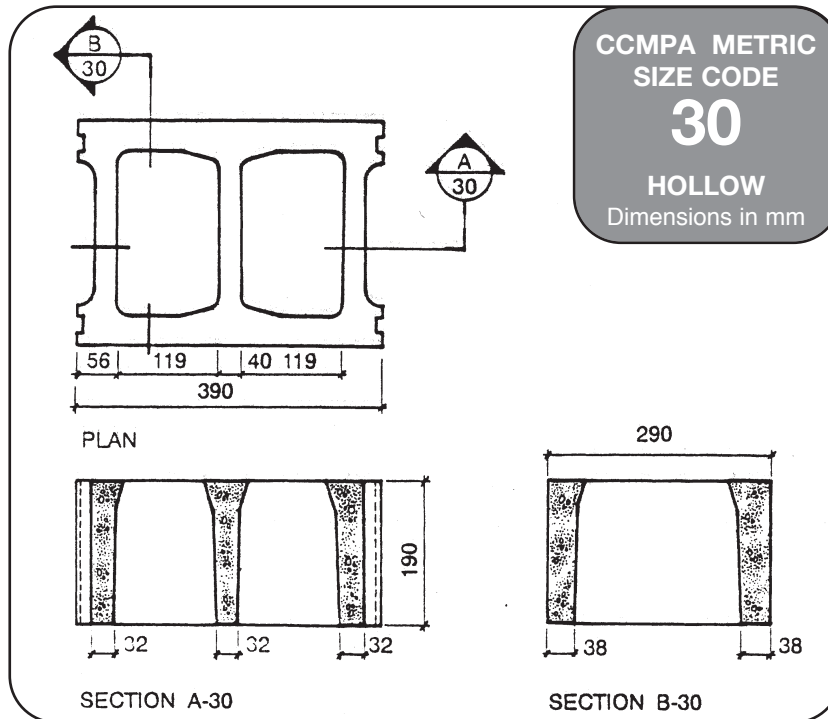


# Physical Properties

| PHYSICAL PROPERTIES OF<br>STANDARD METRIC SIZE BLOCK |                                                       |        |                                                                                     | SIZE CODE<br>30                                                                     |                                                                                     |       |
|------------------------------------------------------|-------------------------------------------------------|--------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------|
| ACTUAL DIMENSIONS (mm)                               |                                                       | NOTES* | STANDARD CONFIGURATION                                                              |                                                                                     |                                                                                     |       |
| Width 290                                            | Length 390                                            |        | Height 190                                                                          | HOLLOW                                                                              | 75% SOLID                                                                           | SOLID |
| PROPERTIES                                           |                                                       |        |  |  |  |       |
| Dimensions (mm)                                      | Minimum Face Shell Thickness                          | 1      | 38                                                                                  | 90                                                                                  | N/A                                                                                 |       |
|                                                      | Minimum Web Thickness                                 | 1      | 32                                                                                  | 30                                                                                  | N/A                                                                                 |       |
|                                                      | Equivalent Thickness                                  | 2      | 148                                                                                 | 227                                                                                 | 290                                                                                 |       |
| Area (mm²)                                           | Gross Area                                            | 3      | 11.31 x 10⁴                                                                         | 11.31 x 10⁴                                                                         | 11.31 x 10⁴                                                                         |       |
|                                                      | Net Area                                              | 4      | 5.77 x 10⁴                                                                          | 8.82 x 10⁴                                                                          | 11.31 x 10⁴                                                                         |       |
|                                                      | Core Area                                             | 5      | 2.50 x 10⁴                                                                          | 1.07 x 10⁴                                                                          | N/A                                                                                 |       |
| Volume (mm³)                                         | Gross Volume                                          | 6      | 21.489 x 10⁶                                                                        | 21.489 x 10⁶                                                                        | 21.489 x 10⁶                                                                        |       |
|                                                      | Net Volume                                            | 7      | 10.96 x 10⁶                                                                         | 16.76 x 10⁶                                                                         | 21.49 x 10⁶                                                                         |       |
| Percent Solid (%)                                    | Net Volume/Gross Volume                               |        | 51%                                                                                 | 78%                                                                                 | 100%                                                                                |       |
| Typical Unit Mass (kg)                               | CSA “A” - Type “A” Concrete                           | 8      | 23.0                                                                                | 35.2                                                                                | 45.1                                                                                |       |
|                                                      | CSA “C” - Type “C” Concrete                           |        | 19.2                                                                                | 29.3                                                                                | 37.6                                                                                |       |
|                                                      | CSA “D” - Type “D” Concrete                           |        | 18.1                                                                                | 27.7                                                                                | 35.5                                                                                |       |
| Typical Wall Mass (kg/m²)<br>(with mortar)           | CSA “A” - Type “A” Concrete                           |        | 310.6                                                                               | 475.0                                                                               | 609.0                                                                               |       |
|                                                      | CSA “C” - Type “C” Concrete                           |        | 258.8                                                                               | 395.9                                                                               | 507.5                                                                               |       |
|                                                      | CSA “D” - Type “D” Concrete                           |        | 244.0                                                                               | 373.2                                                                               | 478.5                                                                               |       |
| Minimum Compressive<br>Strength (Mpa)                | Based on Net Area                                     |        | 15.0                                                                                | 15.0                                                                                | 15.0                                                                                |       |
|                                                      | Based on Gross Area                                   |        | 7.6                                                                                 | 11.7                                                                                | 15.0                                                                                |       |
| Fire Performance Rating<br>(Hours)                   | Normal Weight - N.B.C.                                |        | 3.2                                                                                 | 4+                                                                                  | 4+                                                                                  |       |
|                                                      | Light Weight - N.B.C.<br>-L₂20S                       |        | 4+                                                                                  | 4+                                                                                  | 4+                                                                                  |       |
| Sound Properties                                     | Sound Transmission Class - (STC)                      |        |                                                                                     |                                                                                     |                                                                                     |       |
|                                                      | -CSA Type “A” Concrete<br>-CSA Type “C”, “D” Concrete |        | 53<br>50                                                                            | 58<br>56                                                                            | 58<br>58                                                                            |       |
| Thermal Properties (m² °C/W)                         | RSI Factors                                           |        |                                                                                     |                                                                                     |                                                                                     |       |
|                                                      | -CSA Type “A” Concrete                                |        | .26                                                                                 | N/A                                                                                 | N/A                                                                                 |       |
|                                                      | -CSA Type “C”, “D” Concrete                           |        | .36                                                                                 | N/A                                                                                 | N/A                                                                                 |       |
| Moment of Inertia (mm⁴)                              | Per Block I                                           |        | 570.4 x 10⁶                                                                         | 771.0 x 10⁶                                                                         | 792.6 x 10⁶                                                                         |       |
|                                                      | Per Metre Im                                          |        | 1463 x 10⁶                                                                          | 1977 x 10⁶                                                                          | 2032 x 10⁶                                                                          |       |
| Section Modulus (mm³)                                | Per Block S                                           |        | 3.934 x 10⁶                                                                         | 5.317 x 10⁶                                                                         | 5.466 x 10⁶                                                                         |       |
|                                                      | Per Block Sm                                          |        | 10.09 x 10⁶                                                                         | 13.63 x 10⁶                                                                         | 14.02 x 10⁶                                                                         |       |

\* Information to be used in conjunction with explanatory notes on Page 4-11

# Physical Properties





# Physical Properties

## Explanatory Notes

| NUMBER | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1      | Due to manufacturing process, dimensions may exceed minimum requirements.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2      | <p>Equivalent thickness is the net thickness of a unit, other than a solid unit, re-shaped to form a voidless unit having the same height and length dimensions (190mm x 390mm) and is a direct function of percentage solid content. Therefore, the overall width of a non-solid unit multiplied by its percentage solid content will arrive at its equivalent thickness ratio.</p> <p>The percentage solid content equals net volume (as defined in The Supplement to the National Building Code) divided by gross volume.</p> <p>e.g. Calculating Equivalent Thickness:<br/> 20cm Hollow Concrete Block<br/> Percentage Solid 56% as per CCMPA specification</p> $\text{Equivalent Thickness} = \text{Actual Width} \times \text{Percentage Solid}$ $= 190\text{mm} \times \frac{56}{100}$ <p>Equivalent Thickness = 106mm</p> |
| 3      | Gross Area, defined by the CSA-A165.1, is the area parallel to the bearing surface of the masonry unit by calculating the actual measured overall dimensions of the unit including the voids.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 4      | Net Area is the net cross-sectional area at mid-depth of the unit. This area can be calculated using actual Gross Area multiplied by percentage solid of unit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 5      | Core Area is the measurement of the core areas taken at mid-height of unit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 6      | Gross Volume, as defined in Supplement to the National Building Code is:<br>“Equal to the actual length of the unit multiplied by the actual height of the unit multiplied by the actual thickness of the unit.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 7      | Net Volume, as defined in Supplement to the National Building Code is:<br>“Determined by using a volume displacement method that is not influenced by the porous nature of the unit.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 8      | Refer to CCMPA Specifications for concrete density (kg/m <sup>3</sup> ).<br>Typical Average Weight of Type “A” Concrete 2100 kg/m <sup>3</sup><br>Typical Average Weight of Type “C” Concrete 1750 kg/m <sup>3</sup><br>Typical Average Weight of Type “D” Concrete 1650 kg/m <sup>3</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 9      | Fire Ratings are based on the Supplement to the National Building Code.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 10     | For more detailed information, refer to Section 7 – Sound Properties.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 11     | Refer to Section 6 – Thermal Properties, for detailed information.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |