AHP Results Physical Construction

# Engineer 1

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 1.0000 | 3.0000 |
| 1.0000 | 1.0000 | 1.0000 |
| 0.3333 | 1.0000 | 1.0000 |

Weights:  
 [0.45995809 0.31891713 0.22112479]

Max Eigenvalue: 3.1356+0.0000j

Consistency Index (CI): 0.0678+0.0000j

Consistency Ratio (CR): 0.1169+0.0000j

Random Index (RI): 0.5800

# Engineer 2

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 3.0000 |
| 1.0000 | 0.3333 | 1.0000 |

Weights:  
 [0.31891713 0.45995809 0.22112479]

Max Eigenvalue: 3.1356+0.0000j

Consistency Index (CI): 0.0678+0.0000j

Consistency Ratio (CR): 0.1169+0.0000j

Random Index (RI): 0.5800

# Engineer 3

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 3.0000 | 1.0000 |
| 0.3333 | 1.0000 | 3.0000 |
| 1.0000 | 0.3333 | 1.0000 |

Weights:  
 [0.45995809 0.31891713 0.22112479]

Max Eigenvalue: 3.5608+0.0000j

Consistency Index (CI): 0.2804+0.0000j

Consistency Ratio (CR): 0.4835+0.0000j

Random Index (RI): 0.5800

# Engineer 4

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |

Weights:  
 [0.33333333 0.33333333 0.33333333]

Max Eigenvalue: 3.0000

Consistency Index (CI): 0.0000

Consistency Ratio (CR): 0.0000

Random Index (RI): 0.5800

# Engineer 5

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |

Weights:  
 [0.33333333 0.33333333 0.33333333]

Max Eigenvalue: 3.0000

Consistency Index (CI): 0.0000

Consistency Ratio (CR): 0.0000

Random Index (RI): 0.5800

# Engineer 6

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |

Weights:  
 [0.33333333 0.33333333 0.33333333]

Max Eigenvalue: 3.0000

Consistency Index (CI): 0.0000

Consistency Ratio (CR): 0.0000

Random Index (RI): 0.5800

# Engineer 7

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |

Weights:  
 [0.33333333 0.33333333 0.33333333]

Max Eigenvalue: 3.0000

Consistency Index (CI): 0.0000

Consistency Ratio (CR): 0.0000

Random Index (RI): 0.5800

# Engineer 8

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 9.0000 | 5.0000 |
| 0.1111 | 1.0000 | 0.1111 |
| 0.2000 | 9.0009 | 1.0000 |

Weights:  
 [0.71074085 0.0461811 0.24307805]

Max Eigenvalue: 3.2948+0.0000j

Consistency Index (CI): 0.1474+0.0000j

Consistency Ratio (CR): 0.2542+0.0000j

Random Index (RI): 0.5800

# Engineer 9

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 3.0000 | 1.0000 |
| 0.3333 | 1.0000 | 5.0000 |
| 1.0000 | 0.2000 | 1.0000 |

Weights:  
 [0.44892354 0.36904688 0.18202958]

Max Eigenvalue: 3.8717+0.0000j

Consistency Index (CI): 0.4358+0.0000j

Consistency Ratio (CR): 0.7515+0.0000j

Random Index (RI): 0.5800

# Engineer 10

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |

Weights:  
 [0.33333333 0.33333333 0.33333333]

Max Eigenvalue: 3.0000

Consistency Index (CI): 0.0000

Consistency Ratio (CR): 0.0000

Random Index (RI): 0.5800

# Engineer 11

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 3.0000 | 1.0000 |
| 0.3333 | 1.0000 | 3.0000 |
| 1.0000 | 0.3333 | 1.0000 |

Weights:  
 [0.45995809 0.31891713 0.22112479]

Max Eigenvalue: 3.5608+0.0000j

Consistency Index (CI): 0.2804+0.0000j

Consistency Ratio (CR): 0.4835+0.0000j

Random Index (RI): 0.5800

# Engineer 12

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 1.0000 | 0.2000 |
| 1.0000 | 1.0000 | 1.0000 |
| 5.0000 | 1.0000 | 1.0000 |

Weights:  
 [0.17749399 0.30351045 0.51899557]

Max Eigenvalue: 3.2948+0.0000j

Consistency Index (CI): 0.1474+0.0000j

Consistency Ratio (CR): 0.2541+0.0000j

Random Index (RI): 0.5800

# Engineer 13

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 3.0000 | 3.0000 |
| 0.3333 | 1.0000 | 5.0000 |
| 0.3333 | 0.2000 | 1.0000 |

Weights:  
 [0.56659583 0.32295508 0.11044908]

Max Eigenvalue: 3.2948+0.0000j

Consistency Index (CI): 0.1474+0.0000j

Consistency Ratio (CR): 0.2541+0.0000j

Random Index (RI): 0.5800

# Engineer 14

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 3.0000 | 1.0000 |
| 0.3333 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |

Weights:  
 [0.45995809 0.22112479 0.31891713]

Max Eigenvalue: 3.1356+0.0000j

Consistency Index (CI): 0.0678+0.0000j

Consistency Ratio (CR): 0.1169+0.0000j

Random Index (RI): 0.5800

# Engineer 15

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |

Weights:  
 [0.33333333 0.33333333 0.33333333]

Max Eigenvalue: 3.0000

Consistency Index (CI): 0.0000

Consistency Ratio (CR): 0.0000

Random Index (RI): 0.5800

# Engineer 16

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |

Weights:  
 [0.33333333 0.33333333 0.33333333]

Max Eigenvalue: 3.0000

Consistency Index (CI): 0.0000

Consistency Ratio (CR): 0.0000

Random Index (RI): 0.5800

# Engineer 17

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |

Weights:  
 [0.33333333 0.33333333 0.33333333]

Max Eigenvalue: 3.0000

Consistency Index (CI): 0.0000

Consistency Ratio (CR): 0.0000

Random Index (RI): 0.5800

# Engineer 18

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |

Weights:  
 [0.33333333 0.33333333 0.33333333]

Max Eigenvalue: 3.0000

Consistency Index (CI): 0.0000

Consistency Ratio (CR): 0.0000

Random Index (RI): 0.5800

# Engineer 19

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |

Weights:  
 [0.33333333 0.33333333 0.33333333]

Max Eigenvalue: 3.0000

Consistency Index (CI): 0.0000

Consistency Ratio (CR): 0.0000

Random Index (RI): 0.5800

# Engineer 20

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 5.0000 | 1.0000 |
| 0.2000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |

Weights:  
 [0.51899557 0.17749399 0.30351045]

Max Eigenvalue: 3.2948+0.0000j

Consistency Index (CI): 0.1474+0.0000j

Consistency Ratio (CR): 0.2541+0.0000j

Random Index (RI): 0.5800

# Engineer 21

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |

Weights:  
 [0.33333333 0.33333333 0.33333333]

Max Eigenvalue: 3.0000

Consistency Index (CI): 0.0000

Consistency Ratio (CR): 0.0000

Random Index (RI): 0.5800

# Engineer 22

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |

Weights:  
 [0.33333333 0.33333333 0.33333333]

Max Eigenvalue: 3.0000

Consistency Index (CI): 0.0000

Consistency Ratio (CR): 0.0000

Random Index (RI): 0.5800

# Engineer 23

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 1.0000 | 3.0000 |
| 1.0000 | 1.0000 | 3.0000 |
| 0.3333 | 0.3333 | 1.0000 |

Weights:  
 [0.42857143 0.42857143 0.14285714]

Max Eigenvalue: 3.0000

Consistency Index (CI): -0.0000

Consistency Ratio (CR): -0.0000

Random Index (RI): 0.5800

# Engineer 24

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |

Weights:  
 [0.33333333 0.33333333 0.33333333]

Max Eigenvalue: 3.0000

Consistency Index (CI): 0.0000

Consistency Ratio (CR): 0.0000

Random Index (RI): 0.5800

# Engineer 25

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 3.0000 | 1.0000 |
| 0.3333 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |

Weights:  
 [0.45995809 0.22112479 0.31891713]

Max Eigenvalue: 3.1356+0.0000j

Consistency Index (CI): 0.0678+0.0000j

Consistency Ratio (CR): 0.1169+0.0000j

Random Index (RI): 0.5800

# Engineer 26

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 3.0000 | 3.0000 |
| 0.3333 | 1.0000 | 3.0000 |
| 0.3333 | 0.3333 | 1.0000 |

Weights:  
 [0.58415641 0.28083311 0.13501048]

Max Eigenvalue: 3.1356+0.0000j

Consistency Index (CI): 0.0678+0.0000j

Consistency Ratio (CR): 0.1169+0.0000j

Random Index (RI): 0.5800

# Engineer 27

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |

Weights:  
 [0.33333333 0.33333333 0.33333333]

Max Eigenvalue: 3.0000

Consistency Index (CI): 0.0000

Consistency Ratio (CR): 0.0000

Random Index (RI): 0.5800

# Engineer 28

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |

Weights:  
 [0.33333333 0.33333333 0.33333333]

Max Eigenvalue: 3.0000

Consistency Index (CI): 0.0000

Consistency Ratio (CR): 0.0000

Random Index (RI): 0.5800

# Engineer 29

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 5.0000 | 3.0000 |
| 0.2000 | 1.0000 | 5.0000 |
| 0.3333 | 0.2000 | 1.0000 |

Weights:  
 [0.63698557 0.25828499 0.10472943]

Max Eigenvalue: 3.5206+0.0000j

Consistency Index (CI): 0.2603+0.0000j

Consistency Ratio (CR): 0.4488+0.0000j

Random Index (RI): 0.5800

# Engineer 30

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |

Weights:  
 [0.33333333 0.33333333 0.33333333]

Max Eigenvalue: 3.0000

Consistency Index (CI): 0.0000

Consistency Ratio (CR): 0.0000

Random Index (RI): 0.5800

# Engineer 31

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |

Weights:  
 [0.33333333 0.33333333 0.33333333]

Max Eigenvalue: 3.0000

Consistency Index (CI): 0.0000

Consistency Ratio (CR): 0.0000

Random Index (RI): 0.5800

# Engineer 32

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 0.1111 | 0.1429 |
| 9.0009 | 1.0000 | 0.1111 |
| 6.9979 | 9.0009 | 1.0000 |

Weights:  
 [0.0480548 0.19120003 0.76074517]

Max Eigenvalue: 3.7043+0.0000j

Consistency Index (CI): 0.3521+0.0000j

Consistency Ratio (CR): 0.6071+0.0000j

Random Index (RI): 0.5800

# Engineer 33

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 1.0000 | 0.3333 |
| 1.0000 | 1.0000 | 1.0000 |
| 3.0003 | 1.0000 | 1.0000 |

Weights:  
 [0.22111565 0.31891459 0.45996976]

Max Eigenvalue: 3.1356+0.0000j

Consistency Index (CI): 0.0678+0.0000j

Consistency Ratio (CR): 0.1169+0.0000j

Random Index (RI): 0.5800

# Engineer 34

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |

Weights:  
 [0.33333333 0.33333333 0.33333333]

Max Eigenvalue: 3.0000

Consistency Index (CI): 0.0000

Consistency Ratio (CR): 0.0000

Random Index (RI): 0.5800

# Engineer 35

Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |
| 1.0000 | 1.0000 | 1.0000 |

Weights:  
 [0.33333333 0.33333333 0.33333333]

Max Eigenvalue: 3.0000

Consistency Index (CI): 0.0000

Consistency Ratio (CR): 0.0000

Random Index (RI): 0.5800

# Aggregate Results

Aggregate Pairwise Comparison Matrix:

|  |  |  |
| --- | --- | --- |
| 1.0000 | 1.0000 | 1.0565 |
| 1.0000 | 1.0000 | 1.0565 |
| 0.9466 | 0.9466 | 1.0000 |

Aggregate Weights:  
 [0.33937986 0.33937986 0.32124028]

Aggregate Max Eigenvalue: 3.0000

Aggregate Consistency Index (CI): 0.0000

Aggregate Consistency Ratio (CR): 0.0000

Aggregate Random Index (RI): 0.5800