



# Heizleistung NORIT-Fußbodenheizung

System: NORIT-TE Therm WF/PS

In den Tabellen kann die Heizleistung abhängig von Vor- und Rücklauftemperatur, Raumtemperatur sowie Bodenbelag bestimmt werden.

Die NORIT-Fußbodenheizsysteme wurden nach DIN EN 1264-2 geprüft.

#### Einsatzbereiche

grün: Für alle Bereiche (maximale Oberflächentemperatur 29 °C)

gelb: Für Randbereiche (maximale Oberflächentemperatur 35 °C)

rot: Nach Norm nicht einsetzbar

Technische Werte für Bäder und anwendungsbezogene Besonderheiten auf Anfrage.

T<sub>v</sub>: Vorlauftemperatur

T<sub>r</sub>: Rücklauftemperatur

### Wärmestromdichte q in W/m²

Bodenbelagswiderstand 0,00 m<sup>2</sup>K/W (z.B. Keramik, Naturstein)

|                |    |     | Raumtemperatur in °C |     |     |     |     |     |     |     |     |     |     |  |  |  |  |
|----------------|----|-----|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
| T <sub>v</sub> | Tr | 15  | 16                   | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | 25  | 26  |  |  |  |  |
| _              |    |     |                      |     |     |     |     |     |     |     |     |     |     |  |  |  |  |
| 60             | 55 | 165 | 161                  | 157 | 153 | 149 | 145 | 142 | 138 | 134 | 130 | 126 | 122 |  |  |  |  |
| 60             | 50 | 155 | 151                  | 147 | 143 | 139 | 135 | 131 | 127 | 123 | 119 | 115 | 111 |  |  |  |  |
| 55             | 50 | 145 | 142                  | 138 | 134 | 130 | 126 | 122 | 118 | 114 | 110 | 106 | 103 |  |  |  |  |
| 55             | 45 | 135 | 131                  | 127 | 123 | 119 | 115 | 111 | 108 | 104 | 100 | 96  | 92  |  |  |  |  |
| 50             | 45 | 126 | 122                  | 118 | 114 | 110 | 106 | 103 | 99  | 95  | 91  | 87  | 83  |  |  |  |  |
| 50             | 40 | 115 | 111                  | 108 | 104 | 100 | 96  | 92  | 88  | 84  | 80  | 76  | 72  |  |  |  |  |
| 45             | 40 | 106 | 103                  | 99  | 95  | 91  | 87  | 83  | 79  | 75  | 71  | 67  | 64  |  |  |  |  |
| 45             | 35 | 96  | 92                   | 88  | 84  | 80  | 76  | 72  | 68  | 64  | 60  | 56  | 52  |  |  |  |  |
| 40             | 35 | 87  | 83                   | 79  | 75  | 71  | 67  | 64  | 60  | 56  | 52  | 48  | 44  |  |  |  |  |
| 40             | 30 | 76  | 72                   | 68  | 64  | 60  | 56  | 52  | 48  | 44  | 40  | 35  | 31  |  |  |  |  |
| 35             | 30 | 67  | 64                   | 60  | 56  | 52  | 48  | 44  | 40  | 36  | 32  | 28  | 24  |  |  |  |  |
| 35             | 25 | 56  | 52                   | 48  | 44  | 40  | 35  | 31  | 26  | 22  | 16  | -   | -   |  |  |  |  |
| 30             | 25 | 48  | 44                   | 40  | 36  | 32  | 28  | 24  | 20  | 15  | 11  | -   | -   |  |  |  |  |
| 30             | 20 | 35  | 31                   | 26  | 22  | 16  | -   | -   | -   | -   | -   | -   | -   |  |  |  |  |
| 25             | 20 | 28  | 24                   | 20  | 15  | 11  | -   | -   | -   | -   | -   | -   | -   |  |  |  |  |

Bodenbelagswiderstand 0,05 m<sup>2</sup>K/W (z.B. Laminat, PVC)

|                |    | Raumtemperatur in °C |     |     |     |     |     |     |     |     |     |     |    |  |  |  |
|----------------|----|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|--|--|--|
| T <sub>v</sub> | Tr | 15                   | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | 25  | 26 |  |  |  |
| _              |    |                      |     |     |     |     |     |     |     |     |     |     |    |  |  |  |
| 60             | 55 | 134                  | 131 | 128 | 125 | 122 | 118 | 115 | 112 | 109 | 106 | 103 | 99 |  |  |  |
| 60             | 50 | 126                  | 123 | 120 | 116 | 113 | 110 | 107 | 104 | 100 | 97  | 94  | 91 |  |  |  |
| 55             | 50 | 118                  | 115 | 112 | 109 | 106 | 103 | 99  | 96  | 93  | 90  | 87  | 84 |  |  |  |
| 55             | 45 | 110                  | 107 | 104 | 100 | 97  | 94  | 91  | 88  | 84  | 81  | 78  | 75 |  |  |  |
| 50             | 45 | 103                  | 99  | 96  | 93  | 90  | 87  | 84  | 80  | 77  | 74  | 71  | 68 |  |  |  |
| 50             | 40 | 94                   | 91  | 88  | 84  | 81  | 78  | 75  | 72  | 68  | 65  | 62  | 59 |  |  |  |
| 45             | 40 | 87                   | 84  | 80  | 77  | 74  | 71  | 68  | 65  | 61  | 58  | 55  | 52 |  |  |  |
| 45             | 35 | 78                   | 75  | 72  | 68  | 65  | 62  | 59  | 55  | 52  | 49  | 46  | 42 |  |  |  |
| 40             | 35 | 71                   | 68  | 65  | 61  | 58  | 55  | 52  | 49  | 45  | 42  | 39  | 36 |  |  |  |
| 40             | 30 | 62                   | 59  | 55  | 52  | 49  | 46  | 42  | 39  | 36  | 32  | 29  | 25 |  |  |  |
| 35             | 30 | 55                   | 52  | 49  | 45  | 42  | 39  | 36  | 33  | 29  | 26  | 23  | 20 |  |  |  |
| 35             | 25 | 46                   | 42  | 39  | 36  | 32  | 29  | 25  | 22  | 18  | 13  | -   | -  |  |  |  |
| 30             | 25 | 39                   | 36  | 33  | 29  | 26  | 23  | 20  | 16  | 13  | 9   | -   | -  |  |  |  |
| 30             | 20 | 29                   | 25  | 22  | 18  | 13  | -   | -   | -   | -   | -   | -   | -  |  |  |  |
| 25             | 20 | 23                   | 20  | 16  | 13  | 9   | -   | -   | -   | -   | -   | -   | -  |  |  |  |

Raumtemperatur in °C

Bodenbelagswiderstand 0,10 m<sup>2</sup>K/W (z.B. Teppich, dünnes Parkett)

Bodenbelagswiderstand 0,15 m<sup>2</sup>K/W (z.B. Parkett, dicker Teppich)

|                |    |                      |     |     |     |     |     |    |    |    |    |    |                | Tradition portatal III o |    |    |    |    |    |    |    |    |    |    |    |      |    |
|----------------|----|----------------------|-----|-----|-----|-----|-----|----|----|----|----|----|----------------|--------------------------|----|----|----|----|----|----|----|----|----|----|----|------|----|
|                |    |                      |     |     |     |     |     |    |    |    |    |    | T <sub>v</sub> | T,                       | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26   |    |
|                |    | Raumtemperatur in °C |     |     |     |     |     |    |    |    |    |    |                |                          |    |    |    |    |    |    |    |    |    |    |    |      |    |
| T <sub>v</sub> | T, | 15                   | 16  | 17  | 18  | 19  | 20  | 21 | 22 | 23 | 24 | 25 | 26             | 60                       | 55 | 98 | 96 | 93 | 91 | 89 | 86 | 84 | 82 | 80 | 77 | 75   | 73 |
|                |    |                      |     |     |     |     |     | 60 | 50 | 92 | 90 | 87 | 85             | 83                       | 80 | 78 | 76 | 73 | 71 | 69 | 66 |    |    |    |    |      |    |
| 60             | 55 | 113                  | 111 | 108 | 105 | 103 | 100 | 97 | 95 | 92 | 89 | 87 | 84             | 55                       | 50 | 86 | 84 | 82 | 80 | 77 | 75 | 73 | 70 | 68 | 66 | 63   | 61 |
| 60             | 50 | 106                  | 104 | 101 | 98  | 95  | 93  | 90 | 87 | 85 | 82 | 79 | 77             | 55                       | 45 | 80 | 78 | 76 | 73 | 71 | 69 | 66 | 64 | 62 | 59 | 57   | 55 |
| 55             | 50 | 100                  | 97  | 95  | 92  | 89  | 87  | 84 | 81 | 79 | 76 | 73 | 71             | _                        |    |    |    |    |    | 71 |    |    |    |    |    |      |    |
| 55             | 45 | 93                   | 90  | 87  | 85  | 82  | 79  | 77 | 74 | 71 | 69 | 66 | 63             | 50                       | 45 | 75 | 73 | 70 | 68 | 66 | 63 | 61 | 59 | 56 | 54 | 52   | 49 |
| 50             | 45 | 87                   | 84  | 81  | 79  | 76  | 73  | 71 | 68 | 65 | 62 | 60 | 57             | 50                       | 40 | 69 | 66 | 64 | 62 | 59 | 57 | 55 | 52 | 50 | 48 | 45   | 43 |
| 50             | 40 | 79                   | 77  | 74  | 71  | 69  | 66  | 63 | 60 | 58 | 55 | 52 | 50             | 45                       | 40 | 63 | 61 | 59 | 56 | 54 | 52 | 49 | 47 | 45 | 42 | 40   | 38 |
| 45             | 40 | 73                   | 71  | 68  | 65  | 62  | 60  | 57 | 54 | 52 | 49 | 46 | 44             | 45                       | 35 | 57 | 55 | 52 | 50 | 48 | 45 | 43 | 40 | 38 | 36 | 33   | 31 |
| 45             | 35 | 66                   | 63  | 60  | 58  | 55  | 52  | 50 | 47 | 44 | 41 | 39 | 36             | 40                       | 35 | 52 | 49 | 47 | 45 | 42 | 40 | 38 | 35 | 33 | 31 | 28   | 26 |
| 40             | 35 | 60                   | 57  | 54  | 52  | 49  | 46  | 44 | 41 | 38 | 36 | 33 | 30             | 40                       | 30 | 45 | 43 | 40 | 38 | 36 | 33 | 31 | 28 | 26 | 24 | 21   | 18 |
| 40             | 30 | 52                   | 50  | 47  | 44  | 41  | 39  | 36 | 33 | 30 | 27 | 24 | 21             | 35                       | 30 | 40 | 38 | 35 | 33 | 31 | 28 | 26 | 24 | 21 | 19 | 17   | 14 |
| 35             | 30 | 46                   | 44  | 41  | 38  | 36  | 33  | 30 | 27 | 25 | 22 | 19 | 16             |                          |    | 33 |    |    |    |    |    | 18 |    |    |    | - 11 |    |
| 35             | 25 | 39                   | 36  | 33  | 30  | 27  | 24  | 21 | 18 | 15 | 11 | -  | -              | 35                       | 25 |    | 31 | 28 | 26 | 24 | 21 |    | 16 | 13 | 10 | -    | -  |
| 30             | 25 | 33                   | 30  | 27  | 25  | 22  | 19  | 16 | 14 | 11 | 7  | -  | -              | 30                       | 25 | 28 | 26 | 24 | 21 | 19 | 17 | 14 | 12 | 9  | 6  | -    | -  |
| 30             | 20 | 24                   | 21  | 18  | 15  | 11  | -   | -  | -  | -  | -  | -  | -              | 30                       | 20 | 21 | 18 | 16 | 13 | 10 | -  | -  | -  | -  | -  | -    | -  |
| 25             | 20 | 19                   | 16  | 14  | 11  | 7   | -   | -  | -  | -  | -  | -  | -              | 25                       | 20 | 17 | 14 | 12 | 9  | 6  | -  | -  | -  | •  | -  | -    | -  |
|                |    |                      |     |     |     |     |     |    |    |    |    |    |                |                          |    |    |    |    |    |    |    |    |    |    |    |      |    |

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## **Beispiel**

Ein Raum benötigt zum Erreichen einer Raumtemperatur von 20 °C eine Norm-Heizlast (Q) von 720 Watt (Ergebnis aus der Heizlastberechnung). Die Heizfläche des Raumes beträgt 15 m².

#### Ergebnis:

Es ist eine Wärmestromdichte (q) von 48 W/m² erforderlich.  $q = \frac{720}{15} \frac{W}{m^2}$ 

Bei einem Bodenbelag Keramik, Naturstein ist hierfür eine Vorlauftemperatur  $(T_v)$  von 35 °C und eine Rücklauftemperatur  $(T_r)$  von 30 °C erforderlich.

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