

Testbeispiel 2 des WALTER-Preview

15. 1. 2005

Glasdach mit Beheizungsmöglichkeit der Tragkonstruktion

Berechnung der Temperaturverteilung

dreidimensionale, stationäre Durchrechnung

Dr. Klaus Krec

Datei: D:\Entw\Walter\WalterWorkDir\Beispiel\_2.xml

### Detailangaben zu der Bateilkonstruktionseingabe

Elements :

Layer - Name: "Ungest. Bereich" Depth= 123,2

SpaceBox - (0, -100, 0) x (750, 80, 123,2) Room Name : "Room 1" Surface Name : "innen" Alpha=13,5  
SpaceBox - (0, 80, 0) x (750, 150, 123,2) Room Name : "Room 0" Surface Name : "aussen" Alpha=20  
MaterialBox - (0, 0, 0) x (30, 40, 123,2) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 0) x (9,5, 72, 123,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 40, 0) x (7,5, 70, 123,2) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 0) x (6, 67,5, 123,2) Material Name : "Luft 27.5 x 10.0 mm" Lambda=0,1045  
MaterialBox - (0, 72, 0) x (15, 82, 123,2) Material Name : "Polyester" Lambda=0,04  
MaterialBox - (0, 70, 0) x (15, 72, 123,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (9,5, 46, 0) x (15, 70, 123,2) Material Name : "Luft 24.0 x 5.5" Lambda=0,0973  
MaterialBox - (9,5, 40, 0) x (35, 46, 123,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (10,5, 42, 0) x (33, 44, 123,2) Material Name : "Luft 2.0 x 22.5 mm" Lambda=0,1  
MaterialBox - (15, 46, 0) x (33, 55, 123,2) Material Name : "Luft 9.0 x 18.0 mm" Lambda=0,0525  
MaterialBox - (33, 46, 0) x (35, 55, 123,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (15, 55, 0) x (750, 67, 123,2) Material Name : "Glas" Lambda=1  
MaterialBox - (15, 67, 0) x (750, 79, 123,2) Material Name : "Luftzwischenraum Glas" Lambda=0,02784  
MaterialBox - (15, 79, 0) x (750, 91, 123,2) Material Name : "Glas" Lambda=1  
MaterialBox - (0, 82, 0) x (15, 91, 123,2) Material Name : "Silikonversiegelung" Lambda=0,25  
MaterialBox - (0, 91, 0) x (30, 97, 123,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 91, 0) x (15, 97, 123,2) Material Name : "Luft 6.0 x 30.0 mm" Lambda=0,0323  
MaterialBox - (0, 97, 0) x (27, 99, 123,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 97, 0) x (25, 99, 123,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 0) x (26, 101, 123,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (23, 101, 0) x (24, 103, 123,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 101, 0) x (23, 106, 123,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 106, 0) x (18, 108, 123,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 108, 0) x (16, 110, 123,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 110, 0) x (8, 112, 123,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (6, 99, 0) x (21, 105, 123,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 105, 0) x (14, 107, 123,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 99, 0) x (8, 109, 123,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 0) x (6, 103, 123,2) Material Name : "Luft 4.0 x 12.0 mm" Lambda=0,0296  
MaterialBox - (8, 99, 0) x (12, 105, 123,2) Material Name : "Luft 6.0 x 4.0 mm" Lambda=0,028  
MaterialBox - (12, 99, 0) x (18, 101, 123,2) Material Name : "Luft 2.0 x 6.0 mm" Lambda=0,0264  
MaterialBox - (15, 67, 0) x (23, 79, 123,2) Material Name : "Polypropylen" Lambda=0,22  
MaterialBox - (23, 67, 0) x (30, 79, 123,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (23,2, 67,2, 0) x (29,8, 78,8, 123,2) Material Name : "Luft Abstandhalter" Lambda=0,031  
MaterialBox - (30, 6,5, 0) x (35,6, 22, 123,2) Material Name : "Kunststoff Heizband" Lambda=0,3  
MaterialBox - (31,8, 9,3, 0) x (33,8, 19,2, 123,2) Material Name : "Kunststoff Heizband" Lambda=0,3  
PowerBox - (31,8, 9,3, 0) x (33,8, 19,2, 123,2) Power Name : "PS 1"

Layer - Name: "Schraube Abdeckg." Depth= 3,6

SpaceBox - (0, -100, 123,2) x (750, 80, 126,8) Room Name : "Room 1" Surface Name : "innen" Alpha=13,5  
SpaceBox - (0, 80, 123,2) x (750, 150, 126,8) Room Name : "Room 0" Surface Name : "aussen" Alpha=20  
MaterialBox - (0, 0, 123,2) x (30, 40, 126,8) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 123,2) x (9,5, 72, 126,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 40, 123,2) x (7,5, 70, 126,8) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 123,2) x (6, 67,5, 126,8) Material Name : "Luft 27.5 x 10.0 mm" Lambda=0,1045  
MaterialBox - (0, 72, 123,2) x (15, 82, 126,8) Material Name : "Polyester" Lambda=0,04  
MaterialBox - (0, 70, 123,2) x (15, 72, 126,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (9,5, 46, 123,2) x (15, 70, 126,8) Material Name : "Luft 24.0 x 5.5" Lambda=0,0973  
MaterialBox - (9,5, 40, 123,2) x (35, 46, 126,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (10,5, 42, 123,2) x (33, 44, 126,8) Material Name : "Luft 2.0 x 22.5 mm" Lambda=0,1  
MaterialBox - (15, 46, 123,2) x (33, 55, 126,8) Material Name : "Luft 9.0 x 18.0 mm" Lambda=0,0525  
MaterialBox - (33, 46, 123,2) x (35, 55, 126,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (15, 55, 123,2) x (750, 67, 126,8) Material Name : "Glas" Lambda=1  
MaterialBox - (15, 67, 123,2) x (750, 79, 126,8) Material Name : "Luftzwischenraum Glas" Lambda=0,02784  
MaterialBox - (15, 79, 123,2) x (750, 91, 126,8) Material Name : "Glas" Lambda=1  
MaterialBox - (0, 82, 123,2) x (15, 91, 126,8) Material Name : "Silikonversiegelung" Lambda=0,25  
MaterialBox - (0, 91, 123,2) x (30, 97, 126,8) Material Name : "Silikon-Dichtung" Lambda=0,18

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15. 1. 2005

Glasdach mit Beheizungsöglichkeit der Tragkonstruktion

Berechnung der Temperaturverteilung

dreidimensionale, stationäre Durchrechnung

Dr. Klaus Krec

Datei: D:\Entw\Walter\WalterWorkDir\Beispiel\_2.xml

### Detailangaben zu der Bateilkonstruktionseingabe

MaterialBox - (0, 91, 123,2) x (15, 97, 126,8) Material Name : "Luft 6.0 x 30.0 mm" Lambda=0,0323  
MaterialBox - (0, 97, 123,2) x (27, 99, 126,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 97, 123,2) x (25, 99, 126,8) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 123,2) x (26, 101, 126,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (23, 101, 123,2) x (24, 103, 126,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 101, 123,2) x (23, 106, 126,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 106, 123,2) x (18, 108, 126,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 108, 123,2) x (16, 110, 126,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 110, 123,2) x (8, 112, 126,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (6, 99, 123,2) x (21, 105, 126,8) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 105, 123,2) x (14, 107, 126,8) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 99, 123,2) x (8, 109, 126,8) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 123,2) x (6, 103, 126,8) Material Name : "Luft 4.0 x 12.0 mm" Lambda=0,0296  
MaterialBox - (8, 99, 123,2) x (12, 105, 126,8) Material Name : "Luft 6.0 x 4.0 mm" Lambda=0,028  
MaterialBox - (12, 99, 123,2) x (18, 101, 126,8) Material Name : "Luft 2.0 x 6.0 mm" Lambda=0,0264  
MaterialBox - (0, 67,5, 123,2) x (1,8, 102, 126,8) Material Name : "Stahl" Lambda=60  
MaterialBox - (15, 67, 123,2) x (23, 79, 126,8) Material Name : "Polypropylen" Lambda=0,22  
MaterialBox - (23, 67, 123,2) x (30, 79, 126,8) Material Name : "Aluminium" Lambda=200  
MaterialBox - (23,2, 67,2, 123,2) x (29,8, 78,8, 126,8) Material Name : "Luft Abstandhalter" Lambda=0,031  
MaterialBox - (30, 6,5, 123,2) x (35,6, 22, 126,8) Material Name : "Kunststoff Heizband" Lambda=0,3  
MaterialBox - (31,8, 9,3, 123,2) x (33,8, 19,2, 126,8) Material Name : "Kunststoff Heizband" Lambda=0,3  
PowerBox - (31,8, 9,3, 123,2) x (33,8, 19,2, 126,8) Power Name : "PS 1"

Layer - Name: "Ungest. Bereich" Depth= 296,4

SpaceBox - (0, -100, 126,8) x (750, 80, 423,2) Room Name : "Room 1" Surface Name : "innen" Alpha=13,5  
SpaceBox - (0, 80, 126,8) x (750, 150, 423,2) Room Name : "Room 0" Surface Name : "ausen" Alpha=20  
MaterialBox - (0, 0, 126,8) x (30, 40, 423,2) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 126,8) x (9,5, 72, 423,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 40, 126,8) x (7,5, 70, 423,2) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 126,8) x (6, 67,5, 423,2) Material Name : "Luft 27.5 x 10.0 mm" Lambda=0,1045  
MaterialBox - (0, 72, 126,8) x (15, 82, 423,2) Material Name : "Polyester" Lambda=0,04  
MaterialBox - (0, 70, 126,8) x (15, 72, 423,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (9,5, 46, 126,8) x (15, 70, 423,2) Material Name : "Luft 24.0 x 5.5" Lambda=0,0973  
MaterialBox - (9,5, 40, 126,8) x (35, 46, 423,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (10,5, 42, 126,8) x (33, 44, 423,2) Material Name : "Luft 2.0 x 22.5 mm" Lambda=0,1  
MaterialBox - (15, 46, 126,8) x (33, 55, 423,2) Material Name : "Luft 9.0 x 18.0 mm" Lambda=0,0525  
MaterialBox - (33, 46, 126,8) x (35, 55, 423,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (15, 55, 126,8) x (750, 67, 423,2) Material Name : "Glas" Lambda=1  
MaterialBox - (15, 67, 126,8) x (750, 79, 423,2) Material Name : "Luftzwischenraum Glas" Lambda=0,02784  
MaterialBox - (15, 79, 126,8) x (750, 91, 423,2) Material Name : "Glas" Lambda=1  
MaterialBox - (0, 82, 126,8) x (15, 91, 423,2) Material Name : "Silikonversiegelung" Lambda=0,25  
MaterialBox - (0, 91, 126,8) x (30, 97, 423,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 91, 126,8) x (15, 97, 423,2) Material Name : "Luft 6.0 x 30.0 mm" Lambda=0,0323  
MaterialBox - (0, 97, 126,8) x (27, 99, 423,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 97, 126,8) x (25, 99, 423,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 126,8) x (26, 101, 423,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (23, 101, 126,8) x (24, 103, 423,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 101, 126,8) x (23, 106, 423,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 106, 126,8) x (18, 108, 423,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 108, 126,8) x (16, 110, 423,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 110, 126,8) x (8, 112, 423,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (6, 99, 126,8) x (21, 105, 423,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 105, 126,8) x (14, 107, 423,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 99, 126,8) x (8, 109, 423,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 126,8) x (6, 103, 423,2) Material Name : "Luft 4.0 x 12.0 mm" Lambda=0,0296  
MaterialBox - (8, 99, 126,8) x (12, 105, 423,2) Material Name : "Luft 6.0 x 4.0 mm" Lambda=0,028  
MaterialBox - (12, 99, 126,8) x (18, 101, 423,2) Material Name : "Luft 2.0 x 6.0 mm" Lambda=0,0264  
MaterialBox - (15, 67, 126,8) x (23, 79, 423,2) Material Name : "Polypropylen" Lambda=0,22  
MaterialBox - (23, 67, 126,8) x (30, 79, 423,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (23,2, 67,2, 126,8) x (29,8, 78,8, 423,2) Material Name : "Luft Abstandhalter" Lambda=0,031  
MaterialBox - (30, 6,5, 126,8) x (35,6, 22, 423,2) Material Name : "Kunststoff Heizband" Lambda=0,3  
MaterialBox - (31,8, 9,3, 126,8) x (33,8, 19,2, 423,2) Material Name : "Kunststoff Heizband" Lambda=0,3

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### Detailangaben zu der Bateilkonstruktionseingabe

PowerBox - (31,8, 9,3, 126,8) x (33,8, 19,2, 423,2) Power Name : "PS 1"

Layer - Name: "Schraube Abdeckg." Depth= 3,6

SpaceBox - (0, -100, 423,2) x (750, 80, 426,8) Room Name : "Room 1" Surface Name : "innen" Alpha=13,5  
SpaceBox - (0, 80, 423,2) x (750, 150, 426,8) Room Name : "Room 0" Surface Name : "ausssen" Alpha=20  
MaterialBox - (0, 0, 423,2) x (30, 40, 426,8) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 423,2) x (9,5, 72, 426,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 40, 423,2) x (7,5, 70, 426,8) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 423,2) x (6, 67,5, 426,8) Material Name : "Luft 27.5 x 10.0 mm" Lambda=0,1045  
MaterialBox - (0, 72, 423,2) x (15, 82, 426,8) Material Name : "Polyester" Lambda=0,04  
MaterialBox - (0, 70, 423,2) x (15, 72, 426,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (9,5, 46, 423,2) x (15, 70, 426,8) Material Name : "Luft 24.0 x 5.5" Lambda=0,0973  
MaterialBox - (9,5, 40, 423,2) x (35, 46, 426,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (10,5, 42, 423,2) x (33, 44, 426,8) Material Name : "Luft 2.0 x 22.5 mm" Lambda=0,1  
MaterialBox - (15, 46, 423,2) x (33, 55, 426,8) Material Name : "Luft 9.0 x 18.0 mm" Lambda=0,0525  
MaterialBox - (33, 46, 423,2) x (35, 55, 426,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (15, 55, 423,2) x (750, 67, 426,8) Material Name : "Glas" Lambda=1  
MaterialBox - (15, 67, 423,2) x (750, 79, 426,8) Material Name : "Luftzwischenraum Glas" Lambda=0,02784  
MaterialBox - (15, 79, 423,2) x (750, 91, 426,8) Material Name : "Glas" Lambda=1  
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MaterialBox - (0, 91, 423,2) x (30, 97, 426,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 91, 423,2) x (15, 97, 426,8) Material Name : "Luft 6.0 x 30.0 mm" Lambda=0,0323  
MaterialBox - (0, 97, 423,2) x (27, 99, 426,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 97, 423,2) x (25, 99, 426,8) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 423,2) x (26, 101, 426,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (23, 101, 423,2) x (24, 103, 426,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 101, 423,2) x (23, 106, 426,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 106, 423,2) x (18, 108, 426,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 108, 423,2) x (16, 110, 426,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 110, 423,2) x (8, 112, 426,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (6, 99, 423,2) x (21, 105, 426,8) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 105, 423,2) x (14, 107, 426,8) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 99, 423,2) x (8, 109, 426,8) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 423,2) x (6, 103, 426,8) Material Name : "Luft 4.0 x 12.0 mm" Lambda=0,0296  
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MaterialBox - (15, 67, 423,2) x (23, 79, 426,8) Material Name : "Polypropylen" Lambda=0,22  
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MaterialBox - (31,8, 9,3, 423,2) x (33,8, 19,2, 426,8) Material Name : "Kunststoff Heizband" Lambda=0,3  
PowerBox - (31,8, 9,3, 423,2) x (33,8, 19,2, 426,8) Power Name : "PS 1"

Layer - Name: "Ungest. Bereich" Depth= 296,4

SpaceBox - (0, -100, 426,8) x (750, 80, 723,2) Room Name : "Room 1" Surface Name : "innen" Alpha=13,5  
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MaterialBox - (0, 0, 426,8) x (30, 40, 723,2) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 426,8) x (9,5, 72, 723,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 40, 426,8) x (7,5, 70, 723,2) Material Name : "Stahl" Lambda=60  
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MaterialBox - (0, 70, 426,8) x (15, 72, 723,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (9,5, 46, 426,8) x (15, 70, 723,2) Material Name : "Luft 24.0 x 5.5" Lambda=0,0973  
MaterialBox - (9,5, 40, 426,8) x (35, 46, 723,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (10,5, 42, 426,8) x (33, 44, 723,2) Material Name : "Luft 2.0 x 22.5 mm" Lambda=0,1  
MaterialBox - (15, 46, 426,8) x (33, 55, 723,2) Material Name : "Luft 9.0 x 18.0 mm" Lambda=0,0525  
MaterialBox - (33, 46, 426,8) x (35, 55, 723,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (15, 55, 426,8) x (750, 67, 723,2) Material Name : "Glas" Lambda=1  
MaterialBox - (15, 67, 426,8) x (750, 79, 723,2) Material Name : "Luftzwischenraum Glas" Lambda=0,02784  
MaterialBox - (15, 79, 426,8) x (750, 91, 723,2) Material Name : "Glas" Lambda=1

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Berechnung der Temperaturverteilung

dreidimensionale, stationäre Durchrechnung

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### Detailangaben zu der Bateilkonstruktioneingabe

MaterialBox - (0, 82, 426,8) x (15, 91, 723,2) Material Name : "Silikonversiegelung" Lambda=0,25  
MaterialBox - (0, 91, 426,8) x (30, 97, 723,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 91, 426,8) x (15, 97, 723,2) Material Name : "Luft 6.0 x 30.0 mm" Lambda=0,0323  
MaterialBox - (0, 97, 426,8) x (27, 99, 723,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 97, 426,8) x (25, 99, 723,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 426,8) x (26, 101, 723,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (23, 101, 426,8) x (24, 103, 723,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 101, 426,8) x (23, 106, 723,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 106, 426,8) x (18, 108, 723,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 108, 426,8) x (16, 110, 723,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 110, 426,8) x (8, 112, 723,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (6, 99, 426,8) x (21, 105, 723,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 105, 426,8) x (14, 107, 723,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 99, 426,8) x (8, 109, 723,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 426,8) x (6, 103, 723,2) Material Name : "Luft 4.0 x 12.0 mm" Lambda=0,0296  
MaterialBox - (8, 99, 426,8) x (12, 105, 723,2) Material Name : "Luft 6.0 x 4.0 mm" Lambda=0,028  
MaterialBox - (12, 99, 426,8) x (18, 101, 723,2) Material Name : "Luft 2.0 x 6.0 mm" Lambda=0,0264  
MaterialBox - (15, 67, 426,8) x (23, 79, 723,2) Material Name : "Polypropylen" Lambda=0,22  
MaterialBox - (23, 67, 426,8) x (30, 79, 723,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (23,2, 67,2, 426,8) x (29,8, 78,8, 723,2) Material Name : "Luft Abstandhalter" Lambda=0,031  
MaterialBox - (30, 6,5, 426,8) x (35,6, 22, 723,2) Material Name : "Kunststoff Heizband" Lambda=0,3  
MaterialBox - (31,8, 9,3, 426,8) x (33,8, 19,2, 723,2) Material Name : "Kunststoff Heizband" Lambda=0,3  
PowerBox - (31,8, 9,3, 426,8) x (33,8, 19,2, 723,2) Power Name : "PS 1"

Layer - Name: "Schraube Abdeckg." Depth= 3,6

SpaceBox - (0, -100, 723,2) x (750, 80, 726,8) Room Name : "Room 1" Surface Name : "innen" Alpha=13,5  
SpaceBox - (0, 80, 723,2) x (750, 150, 726,8) Room Name : "Room 0" Surface Name : "ausen" Alpha=20  
MaterialBox - (0, 0, 723,2) x (30, 40, 726,8) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 723,2) x (9,5, 72, 726,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 40, 723,2) x (7,5, 70, 726,8) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 723,2) x (6, 67,5, 726,8) Material Name : "Luft 27.5 x 10.0 mm" Lambda=0,1045  
MaterialBox - (0, 72, 723,2) x (15, 82, 726,8) Material Name : "Polyester" Lambda=0,04  
MaterialBox - (0, 70, 723,2) x (15, 72, 726,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (9,5, 46, 723,2) x (15, 70, 726,8) Material Name : "Luft 24.0 x 5.5" Lambda=0,0973  
MaterialBox - (9,5, 40, 723,2) x (35, 46, 726,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (10,5, 42, 723,2) x (33, 44, 726,8) Material Name : "Luft 2.0 x 22.5 mm" Lambda=0,1  
MaterialBox - (15, 46, 723,2) x (33, 55, 726,8) Material Name : "Luft 9.0 x 18.0 mm" Lambda=0,0525  
MaterialBox - (33, 46, 723,2) x (35, 55, 726,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (15, 55, 723,2) x (750, 67, 726,8) Material Name : "Glas" Lambda=1  
MaterialBox - (15, 67, 723,2) x (750, 79, 726,8) Material Name : "Luftzwischenraum Glas" Lambda=0,02784  
MaterialBox - (15, 79, 723,2) x (750, 91, 726,8) Material Name : "Glas" Lambda=1  
MaterialBox - (0, 82, 723,2) x (15, 91, 726,8) Material Name : "Silikonversiegelung" Lambda=0,25  
MaterialBox - (0, 91, 723,2) x (30, 97, 726,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 91, 723,2) x (15, 97, 726,8) Material Name : "Luft 6.0 x 30.0 mm" Lambda=0,0323  
MaterialBox - (0, 97, 723,2) x (27, 99, 726,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 97, 723,2) x (25, 99, 726,8) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 723,2) x (26, 101, 726,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (23, 101, 723,2) x (24, 103, 726,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 101, 723,2) x (23, 106, 726,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 106, 723,2) x (18, 108, 726,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 108, 723,2) x (16, 110, 726,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 110, 723,2) x (8, 112, 726,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (6, 99, 723,2) x (21, 105, 726,8) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 105, 723,2) x (14, 107, 726,8) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 99, 723,2) x (8, 109, 726,8) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 723,2) x (6, 103, 726,8) Material Name : "Luft 4.0 x 12.0 mm" Lambda=0,0296  
MaterialBox - (8, 99, 723,2) x (12, 105, 726,8) Material Name : "Luft 6.0 x 4.0 mm" Lambda=0,028  
MaterialBox - (12, 99, 723,2) x (18, 101, 726,8) Material Name : "Luft 2.0 x 6.0 mm" Lambda=0,0264  
MaterialBox - (0, 67,5, 723,2) x (1,8, 102, 726,8) Material Name : "Stahl" Lambda=60  
MaterialBox - (15, 67, 723,2) x (23, 79, 726,8) Material Name : "Polypropylen" Lambda=0,22  
MaterialBox - (23, 67, 723,2) x (30, 79, 726,8) Material Name : "Aluminium" Lambda=200  
MaterialBox - (23,2, 67,2, 723,2) x (29,8, 78,8, 726,8) Material Name : "Luft Abstandhalter" Lambda=0,031

Testbeispiel 2 des WALTER-Preview

15. 1. 2005

Glasdach mit Beheizungsmöglichkeit der Tragkonstruktion

Berechnung der Temperaturverteilung

dreidimensionale, stationäre Durchrechnung

Dr. Klaus Krec

Datei: D:\Entw\Walter\WalterWorkDir\Beispiel\_2.xml

### Detailangaben zu der Bateilkonstruktionseingabe

MaterialBox - (30, 6,5, 723,2) x (35,6, 22, 726,8) Material Name : "Kunststoff Heizband" Lambda=0,3  
MaterialBox - (31,8, 9,3, 723,2) x (33,8, 19,2, 726,8) Material Name : "Kunststoff Heizband" Lambda=0,3  
PowerBox - (31,8, 9,3, 723,2) x (33,8, 19,2, 726,8) Power Name : "PS 1"

Layer - Name: "Ungest. Bereich" Depth= 13,2

SpaceBox - (0, -100, 726,8) x (750, 80, 740,0) Room Name : "Room 1" Surface Name : "innen" Alpha=13,5  
SpaceBox - (0, 80, 726,8) x (750, 150, 740,0) Room Name : "Room 0" Surface Name : "ausen" Alpha=20  
MaterialBox - (0, 0, 726,8) x (30, 40, 740,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 726,8) x (9,5, 72, 740,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 40, 726,8) x (7,5, 70, 740,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 726,8) x (6, 67,5, 740,0) Material Name : "Luft 27.5 x 10.0 mm" Lambda=0,1045  
MaterialBox - (0, 72, 726,8) x (15, 82, 740,0) Material Name : "Polyester" Lambda=0,04  
MaterialBox - (0, 70, 726,8) x (15, 72, 740,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (9,5, 46, 726,8) x (15, 70, 740,0) Material Name : "Luft 24.0 x 5.5" Lambda=0,0973  
MaterialBox - (9,5, 40, 726,8) x (35, 46, 740,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (10,5, 42, 726,8) x (33, 44, 740,0) Material Name : "Luft 2.0 x 22.5 mm" Lambda=0,1  
MaterialBox - (15, 46, 726,8) x (33, 55, 740,0) Material Name : "Luft 9.0 x 18.0 mm" Lambda=0,0525  
MaterialBox - (33, 46, 726,8) x (35, 55, 740,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (15, 55, 726,8) x (750, 67, 740,0) Material Name : "Glas" Lambda=1  
MaterialBox - (15, 67, 726,8) x (750, 79, 740,0) Material Name : "Luftzwischenraum Glas" Lambda=0,02784  
MaterialBox - (15, 79, 726,8) x (750, 91, 740,0) Material Name : "Glas" Lambda=1  
MaterialBox - (0, 82, 726,8) x (15, 91, 740,0) Material Name : "Silikonversiegelung" Lambda=0,25  
MaterialBox - (0, 91, 726,8) x (30, 97, 740,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 91, 726,8) x (15, 97, 740,0) Material Name : "Luft 6.0 x 30.0 mm" Lambda=0,0323  
MaterialBox - (0, 97, 726,8) x (27, 99, 740,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 97, 726,8) x (25, 99, 740,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 726,8) x (26, 101, 740,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (23, 101, 726,8) x (24, 103, 740,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 101, 726,8) x (23, 106, 740,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 106, 726,8) x (18, 108, 740,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 108, 726,8) x (16, 110, 740,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 110, 726,8) x (8, 112, 740,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (6, 99, 726,8) x (21, 105, 740,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 105, 726,8) x (14, 107, 740,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 99, 726,8) x (8, 109, 740,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 726,8) x (6, 103, 740,0) Material Name : "Luft 4.0 x 12.0 mm" Lambda=0,0296  
MaterialBox - (8, 99, 726,8) x (12, 105, 740,0) Material Name : "Luft 6.0 x 4.0 mm" Lambda=0,028  
MaterialBox - (12, 99, 726,8) x (18, 101, 740,0) Material Name : "Luft 2.0 x 6.0 mm" Lambda=0,0264  
MaterialBox - (15, 67, 726,8) x (23, 79, 740,0) Material Name : "Polypropylen" Lambda=0,22  
MaterialBox - (23, 67, 726,8) x (30, 79, 740,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (23,2, 67,2, 726,8) x (29,8, 78,8, 740,0) Material Name : "Luft Abstandhalter" Lambda=0,031  
MaterialBox - (30, 6,5, 726,8) x (35,6, 22, 740,0) Material Name : "Kunststoff Heizband" Lambda=0,3  
MaterialBox - (31,8, 9,3, 726,8) x (33,8, 19,2, 740,0) Material Name : "Kunststoff Heizband" Lambda=0,3  
PowerBox - (31,8, 9,3, 726,8) x (33,8, 19,2, 740,0) Power Name : "PS 1"

Layer - Name: "Dichtung" Depth= 2

SpaceBox - (0, -100, 740,0) x (750, 80, 742,0) Room Name : "Room 1" Surface Name : "innen" Alpha=13,5  
SpaceBox - (0, 80, 740,0) x (750, 150, 742,0) Room Name : "Room 0" Surface Name : "ausen" Alpha=20  
MaterialBox - (0, 0, 740,0) x (30, 40, 742,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 740,0) x (9,5, 72, 742,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 40, 740,0) x (7,5, 70, 742,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 740,0) x (6, 67,5, 742,0) Material Name : "Luft 27.5 x 10.0 mm" Lambda=0,1045  
MaterialBox - (0, 72, 740,0) x (15, 82, 742,0) Material Name : "Polyester" Lambda=0,04  
MaterialBox - (0, 70, 740,0) x (15, 72, 742,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (9,5, 46, 740,0) x (15, 70, 742,0) Material Name : "Luft 24.0 x 5.5" Lambda=0,0973  
MaterialBox - (9,5, 40, 740,0) x (750, 46, 742,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (10,5, 42, 740,0) x (33, 44, 742,0) Material Name : "Luft 2.0 x 22.5 mm" Lambda=0,1  
MaterialBox - (15, 46, 740,0) x (33, 55, 742,0) Material Name : "Luft 9.0 x 18.0 mm" Lambda=0,0525  
MaterialBox - (33, 46, 740,0) x (750, 55, 742,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (15, 55, 740,0) x (750, 67, 742,0) Material Name : "Glas" Lambda=1  
MaterialBox - (15, 67, 740,0) x (750, 79, 742,0) Material Name : "Luftzwischenraum Glas" Lambda=0,02784

Testbeispiel 2 des WALTER-Preview

15. 1. 2005

Glasdach mit Beheizungsmöglichkeit der Tragkonstruktion

Berechnung der Temperaturverteilung

dreidimensionale, stationäre Durchrechnung

Dr. Klaus Krec

Datei: D:\Entw\Walter\WalterWorkDir\Beispiel\_2.xml

### Detailangaben zu der Bateilkonstruktionseingabe

MaterialBox - (15, 79, 740,0) x (750, 91, 742,0) Material Name : "Glas" Lambda=1  
MaterialBox - (0, 82, 740,0) x (15, 91, 742,0) Material Name : "Silikonversiegelung" Lambda=0,25  
MaterialBox - (0, 91, 740,0) x (30, 97, 742,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 91, 740,0) x (15, 97, 742,0) Material Name : "Luft 6.0 x 30.0 mm" Lambda=0,0323  
MaterialBox - (0, 97, 740,0) x (27, 99, 742,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 97, 740,0) x (25, 99, 742,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 740,0) x (26, 101, 742,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (23, 101, 740,0) x (24, 103, 742,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 101, 740,0) x (23, 106, 742,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 106, 740,0) x (18, 108, 742,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 108, 740,0) x (16, 110, 742,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 110, 740,0) x (8, 112, 742,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (6, 99, 740,0) x (21, 105, 742,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 105, 740,0) x (14, 107, 742,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 99, 740,0) x (8, 109, 742,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 740,0) x (6, 103, 742,0) Material Name : "Luft 4.0 x 12.0 mm" Lambda=0,0296  
MaterialBox - (8, 99, 740,0) x (12, 105, 742,0) Material Name : "Luft 6.0 x 4.0 mm" Lambda=0,028  
MaterialBox - (12, 99, 740,0) x (18, 101, 742,0) Material Name : "Luft 2.0 x 6.0 mm" Lambda=0,0264  
MaterialBox - (15, 67, 740,0) x (23, 79, 742,0) Material Name : "Polypropylen" Lambda=0,22  
MaterialBox - (23, 67, 740,0) x (30, 79, 742,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (23,2, 67,2, 740,0) x (29,8, 78,8, 742,0) Material Name : "Luft Abstandhalter" Lambda=0,031  
MaterialBox - (30, 6,5, 740,0) x (35,6, 22, 742,0) Material Name : "Kunststoff Heizband" Lambda=0,3  
MaterialBox - (31,8, 9,3, 740,0) x (33,8, 19,2, 742,0) Material Name : "Kunststoff Heizband" Lambda=0,3  
PowerBox - (31,8, 9,3, 740,0) x (33,8, 19,2, 742,0) Power Name : "PS 1"

Layer - Name: "Dichtung/Luft" Depth= 3

SpaceBox - (0, -100, 742,0) x (750, 80, 745,0) Room Name : "Room 1" Surface Name : "innen" Alpha=13,5  
SpaceBox - (0, 80, 742,0) x (750, 150, 745,0) Room Name : "Room 0" Surface Name : "ausen" Alpha=20  
MaterialBox - (0, 0, 742,0) x (30, 40, 745,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 742,0) x (9,5, 72, 745,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 40, 742,0) x (7,5, 70, 745,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 742,0) x (6, 67,5, 745,0) Material Name : "Luft 27.5 x 10.0 mm" Lambda=0,1045  
MaterialBox - (0, 72, 742,0) x (15, 82, 745,0) Material Name : "Polyester" Lambda=0,04  
MaterialBox - (0, 70, 742,0) x (15, 72, 745,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (9,5, 46, 742,0) x (15, 70, 745,0) Material Name : "Luft 24.0 x 5.5" Lambda=0,0973  
MaterialBox - (9,5, 40, 742,0) x (750, 46, 745,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (10,5, 42, 742,0) x (750, 44, 745,0) Material Name : "Luft 2.0 x 22.5 mm" Lambda=0,1  
MaterialBox - (33, 46, 742,0) x (750, 55, 745,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (15, 46, 742,0) x (750, 55, 745,0) Material Name : "Luft 9.0 x 18.0 mm" Lambda=0,0525  
MaterialBox - (15, 55, 742,0) x (750, 67, 745,0) Material Name : "Glas" Lambda=1  
MaterialBox - (15, 67, 742,0) x (750, 79, 745,0) Material Name : "Luftzwischenraum Glas" Lambda=0,02784  
MaterialBox - (15, 79, 742,0) x (750, 91, 745,0) Material Name : "Glas" Lambda=1  
MaterialBox - (0, 82, 742,0) x (15, 91, 745,0) Material Name : "Silikonversiegelung" Lambda=0,25  
MaterialBox - (0, 91, 742,0) x (30, 97, 745,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 91, 742,0) x (15, 97, 745,0) Material Name : "Luft 6.0 x 30.0 mm" Lambda=0,0323  
MaterialBox - (0, 97, 742,0) x (27, 99, 745,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 97, 742,0) x (25, 99, 745,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 742,0) x (26, 101, 745,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (23, 101, 742,0) x (24, 103, 745,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 101, 742,0) x (23, 106, 745,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 106, 742,0) x (18, 108, 745,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 108, 742,0) x (16, 110, 745,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 110, 742,0) x (8, 112, 745,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (6, 99, 742,0) x (21, 105, 745,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 105, 742,0) x (14, 107, 745,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 99, 742,0) x (8, 109, 745,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 742,0) x (6, 103, 745,0) Material Name : "Luft 4.0 x 12.0 mm" Lambda=0,0296  
MaterialBox - (8, 99, 742,0) x (12, 105, 745,0) Material Name : "Luft 6.0 x 4.0 mm" Lambda=0,028  
MaterialBox - (12, 99, 742,0) x (18, 101, 745,0) Material Name : "Luft 2.0 x 6.0 mm" Lambda=0,0264  
MaterialBox - (15, 67, 742,0) x (23, 79, 745,0) Material Name : "Polypropylen" Lambda=0,22  
MaterialBox - (23, 67, 742,0) x (30, 79, 745,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (23,2, 67,2, 742,0) x (29,8, 78,8, 745,0) Material Name : "Luft Abstandhalter" Lambda=0,031

Testbeispiel 2 des WALTER-Preview

15. 1. 2005

Glasdach mit Beheizungsmöglichkeit der Tragkonstruktion  
Berechnung der Temperaturverteilung  
dreidimensionale, stationäre Durchrechnung  
Dr. Klaus Krec

Datei: D:\Entw\Walter\WalterWorkDir\Beispiel\_2.xml

### Detailangaben zu der Bateilkonstruktionseingabe

MaterialBox - (30, 6,5, 742,0) x (35,6, 22, 745,0) Material Name : "Kunststoff Heizband" Lambda=0,3  
MaterialBox - (31,8, 9,3, 742,0) x (33,8, 19,2, 745,0) Material Name : "Kunststoff Heizband" Lambda=0,3  
PowerBox - (31,8, 9,3, 742,0) x (33,8, 19,2, 745,0) Power Name : "PS 1"

Layer - Name: "Abstandhalterw." Depth= 0,2

SpaceBox - (0, -100, 745,0) x (750, 80, 745,2) Room Name : "Room 1" Surface Name : "innen" Alpha=13,5  
SpaceBox - (0, 80, 745,0) x (750, 150, 745,2) Room Name : "Room 0" Surface Name : "ausssen" Alpha=20  
MaterialBox - (0, 0, 745,0) x (30, 40, 745,2) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 745,0) x (9,5, 72, 745,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 40, 745,0) x (7,5, 70, 745,2) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 745,0) x (6, 67,5, 745,2) Material Name : "Luft 27.5 x 10.0 mm" Lambda=0,1045  
MaterialBox - (0, 72, 745,0) x (15, 82, 745,2) Material Name : "Polyester" Lambda=0,04  
MaterialBox - (0, 70, 745,0) x (15, 72, 745,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (9,5, 46, 745,0) x (15, 70, 745,2) Material Name : "Luft 24.0 x 5.5" Lambda=0,0973  
MaterialBox - (9,5, 40, 745,0) x (750, 46, 745,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (10,5, 42, 745,0) x (750, 44, 745,2) Material Name : "Luft 2.0 x 22.5 mm" Lambda=0,1  
MaterialBox - (33, 46, 745,0) x (750, 55, 745,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (15, 46, 745,0) x (750, 55, 745,2) Material Name : "Luft 9.0 x 18.0 mm" Lambda=0,0525  
MaterialBox - (15, 55, 745,0) x (750, 67, 745,2) Material Name : "Glas" Lambda=1  
MaterialBox - (15, 67, 745,0) x (750, 79, 745,2) Material Name : "Luftzwischenraum Glas" Lambda=0,02784  
MaterialBox - (15, 79, 745,0) x (750, 91, 745,2) Material Name : "Glas" Lambda=1  
MaterialBox - (0, 82, 745,0) x (15, 91, 745,2) Material Name : "Silikonversiegelung" Lambda=0,25  
MaterialBox - (0, 91, 745,0) x (30, 97, 745,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 91, 745,0) x (15, 97, 745,2) Material Name : "Luft 6.0 x 30.0 mm" Lambda=0,0323  
MaterialBox - (0, 97, 745,0) x (27, 99, 745,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 97, 745,0) x (25, 99, 745,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 745,0) x (26, 101, 745,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (23, 101, 745,0) x (24, 103, 745,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 101, 745,0) x (23, 106, 745,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 106, 745,0) x (18, 108, 745,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 108, 745,0) x (16, 110, 745,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 110, 745,0) x (8, 112, 745,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (6, 99, 745,0) x (21, 105, 745,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 105, 745,0) x (14, 107, 745,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 99, 745,0) x (8, 109, 745,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 745,0) x (6, 103, 745,2) Material Name : "Luft 4.0 x 12.0 mm" Lambda=0,0296  
MaterialBox - (8, 99, 745,0) x (12, 105, 745,2) Material Name : "Luft 6.0 x 4.0 mm" Lambda=0,028  
MaterialBox - (12, 99, 745,0) x (18, 101, 745,2) Material Name : "Luft 2.0 x 6.0 mm" Lambda=0,0264  
MaterialBox - (15, 67, 745,0) x (23, 79, 745,2) Material Name : "Polypropylen" Lambda=0,22  
MaterialBox - (23, 67, 745,0) x (750, 79, 745,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (23,2, 67,2, 745,0) x (29,8, 78,8, 745,2) Material Name : "Luft Abstandhalter" Lambda=0,031  
MaterialBox - (32, 32, 745,0) x (750, 40, 745,2) Material Name : "Stahl" Lambda=60  
MaterialBox - (30, 6,5, 745,0) x (35,6, 22, 745,2) Material Name : "Kunststoff Heizband" Lambda=0,3  
MaterialBox - (31,8, 9,3, 745,0) x (33,8, 19,2, 745,2) Material Name : "Kunststoff Heizband" Lambda=0,3  
PowerBox - (31,8, 9,3, 745,0) x (33,8, 19,2, 745,2) Power Name : "PS 1"

Layer - Name: "Abstandhalter Luft" Depth= 4,8

SpaceBox - (0, -100, 745,2) x (750, 80, 750,0) Room Name : "Room 1" Surface Name : "innen" Alpha=13,5  
SpaceBox - (0, 80, 745,2) x (750, 150, 750,0) Room Name : "Room 0" Surface Name : "ausssen" Alpha=20  
MaterialBox - (0, 0, 745,2) x (30, 40, 750,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 745,2) x (9,5, 72, 750,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 40, 745,2) x (7,5, 70, 750,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 745,2) x (6, 67,5, 750,0) Material Name : "Luft 27.5 x 10.0 mm" Lambda=0,1045  
MaterialBox - (0, 72, 745,2) x (15, 82, 750,0) Material Name : "Polyester" Lambda=0,04  
MaterialBox - (0, 70, 745,2) x (15, 72, 750,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (9,5, 46, 745,2) x (15, 70, 750,0) Material Name : "Luft 24.0 x 5.5" Lambda=0,0973  
MaterialBox - (9,5, 40, 745,2) x (750, 46, 750,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (10,5, 42, 745,2) x (750, 44, 750,0) Material Name : "Luft 2.0 x 22.5 mm" Lambda=0,1  
MaterialBox - (33, 46, 745,2) x (750, 55, 750,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (15, 46, 745,2) x (750, 55, 750,0) Material Name : "Luft 9.0 x 18.0 mm" Lambda=0,0525  
MaterialBox - (15, 55, 745,2) x (750, 67, 750,0) Material Name : "Glas" Lambda=1

Testbeispiel 2 des WALTER-Preview

15. 1. 2005

Glasdach mit Beheizungsmöglichkeit der Tragkonstruktion

Berechnung der Temperaturverteilung

dreidimensionale, stationäre Durchrechnung

Dr. Klaus Krec

Datei: D:\Entw\Walter\WalterWorkDir\Beispiel\_2.xml

### Detailangaben zu der Bateilkonstruktionseingabe

MaterialBox - (15, 67, 745,2) x (750, 79, 750,0) Material Name : "Luftzwischenraum Glas" Lambda=0,02784  
MaterialBox - (15, 79, 745,2) x (750, 91, 750,0) Material Name : "Glas" Lambda=1  
MaterialBox - (0, 82, 745,2) x (15, 91, 750,0) Material Name : "Silikonversiegelung" Lambda=0,25  
MaterialBox - (0, 91, 745,2) x (30, 97, 750,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 91, 745,2) x (15, 97, 750,0) Material Name : "Luft 6.0 x 30.0 mm" Lambda=0,0323  
MaterialBox - (0, 97, 745,2) x (27, 99, 750,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 97, 745,2) x (25, 99, 750,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 745,2) x (26, 101, 750,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (23, 101, 745,2) x (24, 103, 750,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 101, 745,2) x (23, 106, 750,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 106, 745,2) x (18, 108, 750,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 108, 745,2) x (16, 110, 750,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 110, 745,2) x (8, 112, 750,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (6, 99, 745,2) x (21, 105, 750,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 105, 745,2) x (14, 107, 750,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 99, 745,2) x (8, 109, 750,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 745,2) x (6, 103, 750,0) Material Name : "Luft 4.0 x 12.0 mm" Lambda=0,0296  
MaterialBox - (8, 99, 745,2) x (12, 105, 750,0) Material Name : "Luft 6.0 x 4.0 mm" Lambda=0,028  
MaterialBox - (12, 99, 745,2) x (18, 101, 750,0) Material Name : "Luft 2.0 x 6.0 mm" Lambda=0,0264  
MaterialBox - (15, 67, 745,2) x (23, 79, 750,0) Material Name : "Polypropylen" Lambda=0,22  
MaterialBox - (23, 67, 745,2) x (750, 79, 750,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (23,2, 67,2, 745,2) x (750, 78,8, 750,0) Material Name : "Luft Abstandhalter" Lambda=0,031  
MaterialBox - (32, 32, 745,2) x (750, 40, 750,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (30, 6,5, 745,2) x (35,6, 22, 750,0) Material Name : "Kunststoff Heizband" Lambda=0,3  
MaterialBox - (31,8, 9,3, 745,2) x (33,8, 19,2, 750,0) Material Name : "Kunststoff Heizband" Lambda=0,3  
PowerBox - (31,8, 9,3, 745,2) x (33,8, 19,2, 750,0) Power Name : "PS 1"

Layer - Name: "Abstandhalter Luft" Depth= 1,8

SpaceBox - (0, -100, 750,0) x (750, 80, 751,8) Room Name : "Room 1" Surface Name : "innen" Alpha=13,5  
SpaceBox - (0, 80, 750,0) x (750, 150, 751,8) Room Name : "Room 0" Surface Name : "ausen" Alpha=20  
MaterialBox - (0, 0, 750,0) x (30, 40, 751,8) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 750,0) x (9,5, 72, 751,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 40, 750,0) x (7,5, 70, 751,8) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 750,0) x (6, 67,5, 751,8) Material Name : "Luft 27.5 x 10.0 mm" Lambda=0,1045  
MaterialBox - (0, 72, 750,0) x (15, 82, 751,8) Material Name : "Polyester" Lambda=0,04  
MaterialBox - (0, 70, 750,0) x (15, 72, 751,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (9,5, 46, 750,0) x (15, 70, 751,8) Material Name : "Luft 24.0 x 5.5" Lambda=0,0973  
MaterialBox - (9,5, 40, 750,0) x (750, 46, 751,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (10,5, 42, 750,0) x (750, 44, 751,8) Material Name : "Luft 2.0 x 22.5 mm" Lambda=0,1  
MaterialBox - (33, 46, 750,0) x (750, 55, 751,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (15, 46, 750,0) x (750, 55, 751,8) Material Name : "Luft 9.0 x 18.0 mm" Lambda=0,0525  
MaterialBox - (15, 55, 750,0) x (750, 67, 751,8) Material Name : "Glas" Lambda=1  
MaterialBox - (15, 67, 750,0) x (750, 79, 751,8) Material Name : "Luftzwischenraum Glas" Lambda=0,02784  
MaterialBox - (15, 79, 750,0) x (750, 91, 751,8) Material Name : "Glas" Lambda=1  
MaterialBox - (0, 82, 750,0) x (15, 91, 751,8) Material Name : "Silikonversiegelung" Lambda=0,25  
MaterialBox - (0, 91, 750,0) x (30, 97, 751,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 91, 750,0) x (15, 97, 751,8) Material Name : "Luft 6.0 x 30.0 mm" Lambda=0,0323  
MaterialBox - (0, 97, 750,0) x (27, 99, 751,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 97, 750,0) x (25, 99, 751,8) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 750,0) x (26, 101, 751,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (23, 101, 750,0) x (24, 103, 751,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 101, 750,0) x (23, 106, 751,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 106, 750,0) x (18, 108, 751,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 108, 750,0) x (16, 110, 751,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 110, 750,0) x (8, 112, 751,8) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (6, 99, 750,0) x (21, 105, 751,8) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 105, 750,0) x (14, 107, 751,8) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 99, 750,0) x (8, 109, 751,8) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 750,0) x (6, 103, 751,8) Material Name : "Luft 4.0 x 12.0 mm" Lambda=0,0296  
MaterialBox - (8, 99, 750,0) x (12, 105, 751,8) Material Name : "Luft 6.0 x 4.0 mm" Lambda=0,028  
MaterialBox - (12, 99, 750,0) x (18, 101, 751,8) Material Name : "Luft 2.0 x 6.0 mm" Lambda=0,0264  
MaterialBox - (15, 67, 750,0) x (23, 79, 751,8) Material Name : "Polypropylen" Lambda=0,22



Testbeispiel 2 des WALTER-Preview

15. 1. 2005

Glasdach mit Beheizungsmöglichkeit der Tragkonstruktion

Berechnung der Temperaturverteilung

dreidimensionale, stationäre Durchrechnung

Dr. Klaus Krec

Datei: D:\Entw\Walter\WalterWorkDir\Beispiel\_2.xml

### Detailangaben zu der Bateilkonstruktionseingabe

MaterialBox - (23, 67, 750,0) x (750, 79, 751,8) Material Name : "Aluminium" Lambda=200  
MaterialBox - (23,2, 67,2, 750,0) x (750, 78,8, 751,8) Material Name : "Luft Abstandhalter" Lambda=0,031  
MaterialBox - (32, 32, 750,0) x (750, 40, 751,8) Material Name : "Stahl" Lambda=60  
MaterialBox - (30, 22, 750,0) x (75, 32, 751,8) Material Name : "Stahl" Lambda=60  
MaterialBox - (30, 6,5, 750,0) x (35,6, 22, 751,8) Material Name : "Kunststoff Heizband" Lambda=0,3  
MaterialBox - (31,8, 9,3, 750,0) x (33,8, 19,2, 751,8) Material Name : "Kunststoff Heizband" Lambda=0,3  
PowerBox - (31,8, 9,3, 750,0) x (33,8, 19,2, 751,8) Power Name : "PS 1"

Layer - Name: "Abstandhalterwand" Depth= 0,2

SpaceBox - (0, -100, 751,8) x (750, 80, 752,0) Room Name : "Room 1" Surface Name : "innen" Alpha=13,5  
SpaceBox - (0, 80, 751,8) x (750, 150, 752,0) Room Name : "Room 0" Surface Name : "ausen" Alpha=20  
MaterialBox - (0, 0, 751,8) x (30, 40, 752,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 751,8) x (9,5, 72, 752,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 40, 751,8) x (7,5, 70, 752,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 751,8) x (6, 67,5, 752,0) Material Name : "Luft 27.5 x 10.0 mm" Lambda=0,1045  
MaterialBox - (0, 72, 751,8) x (15, 82, 752,0) Material Name : "Polyester" Lambda=0,04  
MaterialBox - (0, 70, 751,8) x (15, 72, 752,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (9,5, 46, 751,8) x (15, 70, 752,0) Material Name : "Luft 24.0 x 5.5" Lambda=0,0973  
MaterialBox - (9,5, 40, 751,8) x (750, 46, 752,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (10,5, 42, 751,8) x (750, 44, 752,0) Material Name : "Luft 2.0 x 22.5 mm" Lambda=0,1  
MaterialBox - (33, 46, 751,8) x (750, 55, 752,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (15, 46, 751,8) x (750, 55, 752,0) Material Name : "Luft 9.0 x 18.0 mm" Lambda=0,0525  
MaterialBox - (15, 55, 751,8) x (750, 67, 752,0) Material Name : "Glas" Lambda=1  
MaterialBox - (15, 67, 751,8) x (750, 79, 752,0) Material Name : "Luftzwischenraum Glas" Lambda=0,02784  
MaterialBox - (15, 79, 751,8) x (750, 91, 752,0) Material Name : "Glas" Lambda=1  
MaterialBox - (0, 82, 751,8) x (15, 91, 752,0) Material Name : "Silikonversiegelung" Lambda=0,25  
MaterialBox - (0, 91, 751,8) x (30, 97, 752,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 91, 751,8) x (15, 97, 752,0) Material Name : "Luft 6.0 x 30.0 mm" Lambda=0,0323  
MaterialBox - (0, 97, 751,8) x (27, 99, 752,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 97, 751,8) x (25, 99, 752,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 751,8) x (26, 101, 752,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (23, 101, 751,8) x (24, 103, 752,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 101, 751,8) x (23, 106, 752,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 106, 751,8) x (18, 108, 752,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 108, 751,8) x (16, 110, 752,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 110, 751,8) x (8, 112, 752,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (6, 99, 751,8) x (21, 105, 752,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 105, 751,8) x (14, 107, 752,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 99, 751,8) x (8, 109, 752,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 751,8) x (6, 103, 752,0) Material Name : "Luft 4.0 x 12.0 mm" Lambda=0,0296  
MaterialBox - (8, 99, 751,8) x (12, 105, 752,0) Material Name : "Luft 6.0 x 4.0 mm" Lambda=0,028  
MaterialBox - (12, 99, 751,8) x (18, 101, 752,0) Material Name : "Luft 2.0 x 6.0 mm" Lambda=0,0264  
MaterialBox - (15, 67, 751,8) x (23, 79, 752,0) Material Name : "Polypropylen" Lambda=0,22  
MaterialBox - (23, 67, 751,8) x (750, 79, 752,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (32, 32, 751,8) x (750, 40, 752,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (30, 22, 751,8) x (75, 32, 752,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (30, 6,5, 751,8) x (35,6, 22, 752,0) Material Name : "Kunststoff Heizband" Lambda=0,3  
MaterialBox - (31,8, 9,3, 751,8) x (33,8, 19,2, 752,0) Material Name : "Kunststoff Heizband" Lambda=0,3  
PowerBox - (31,8, 9,3, 751,8) x (33,8, 19,2, 752,0) Power Name : "PS 1"

Layer - Name: "Rueckenueberdeckung" Depth= 8

SpaceBox - (0, -100, 752,0) x (750, 80, 760,0) Room Name : "Room 1" Surface Name : "innen" Alpha=13,5  
SpaceBox - (0, 80, 752,0) x (750, 150, 760,0) Room Name : "Room 0" Surface Name : "ausen" Alpha=20  
MaterialBox - (0, 0, 752,0) x (30, 40, 760,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 752,0) x (9,5, 72, 760,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 40, 752,0) x (7,5, 70, 760,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 752,0) x (6, 67,5, 760,0) Material Name : "Luft 27.5 x 10.0 mm" Lambda=0,1045  
MaterialBox - (0, 72, 752,0) x (15, 82, 760,0) Material Name : "Polyester" Lambda=0,04  
MaterialBox - (0, 70, 752,0) x (15, 72, 760,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (9,5, 46, 752,0) x (15, 70, 760,0) Material Name : "Luft 24.0 x 5.5" Lambda=0,0973  
MaterialBox - (9,5, 40, 752,0) x (750, 46, 760,0) Material Name : "Silikon-Dichtung" Lambda=0,18

Testbeispiel 2 des WALTER-Preview

15. 1. 2005

Glasdach mit Beheizungsmöglichkeit der Tragkonstruktion  
Berechnung der Temperaturverteilung  
dreidimensionale, stationäre Durchrechnung  
Dr. Klaus Krec

Datei: D:\Entw\Walter\WalterWorkDir\Beispiel\_2.xml

### Detailangaben zu der Bateilkonstruktioneingabe

MaterialBox - (10,5, 42, 752,0) x (750, 44, 760,0) Material Name : "Luft 2.0 x 22.5 mm" Lambda=0,1  
MaterialBox - (33, 46, 752,0) x (750, 55, 760,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (15, 46, 752,0) x (750, 55, 760,0) Material Name : "Luft 9.0 x 18.0 mm" Lambda=0,0525  
MaterialBox - (15, 55, 752,0) x (750, 67, 760,0) Material Name : "Glas" Lambda=1  
MaterialBox - (15, 79, 752,0) x (750, 91, 760,0) Material Name : "Glas" Lambda=1  
MaterialBox - (0, 82, 752,0) x (15, 91, 760,0) Material Name : "Silikonversiegelung" Lambda=0,25  
MaterialBox - (0, 91, 752,0) x (30, 97, 760,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 91, 752,0) x (15, 97, 760,0) Material Name : "Luft 6.0 x 30.0 mm" Lambda=0,0323  
MaterialBox - (0, 97, 752,0) x (27, 99, 760,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 97, 752,0) x (25, 99, 760,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 752,0) x (26, 101, 760,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (23, 101, 752,0) x (24, 103, 760,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 101, 752,0) x (23, 106, 760,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 106, 752,0) x (18, 108, 760,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 108, 752,0) x (16, 110, 760,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 110, 752,0) x (8, 112, 760,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (6, 99, 752,0) x (21, 105, 760,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 105, 752,0) x (14, 107, 760,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 99, 752,0) x (8, 109, 760,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 752,0) x (6, 103, 760,0) Material Name : "Luft 4.0 x 12.0 mm" Lambda=0,0296  
MaterialBox - (8, 99, 752,0) x (12, 105, 760,0) Material Name : "Luft 6.0 x 4.0 mm" Lambda=0,028  
MaterialBox - (12, 99, 752,0) x (18, 101, 760,0) Material Name : "Luft 2.0 x 6.0 mm" Lambda=0,0264  
MaterialBox - (15, 67, 752,0) x (750, 79, 760,0) Material Name : "Polypropylen" Lambda=0,22  
MaterialBox - (32, 32, 752,0) x (750, 40, 760,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (30, 22, 752,0) x (75, 32, 760,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (30, 6,5, 752,0) x (35,6, 22, 760,0) Material Name : "Kunststoff Heizband" Lambda=0,3  
MaterialBox - (31,8, 9,3, 752,0) x (33,8, 19,2, 760,0) Material Name : "Kunststoff Heizband" Lambda=0,3  
PowerBox - (31,8, 9,3, 752,0) x (33,8, 19,2, 760,0) Power Name : "PS 1"

Layer - Name: "Luft Dichtung" Depth= 5,2

SpaceBox - (0, -100, 760,0) x (750, 80, 765,2) Room Name : "Room 1" Surface Name : "innen" Alpha=13,5  
SpaceBox - (0, 80, 760,0) x (750, 150, 765,2) Room Name : "Room 0" Surface Name : "ausen" Alpha=20  
MaterialBox - (0, 0, 760,0) x (30, 40, 765,2) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 760,0) x (9,5, 72, 765,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 40, 760,0) x (7,5, 70, 765,2) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 760,0) x (6, 67,5, 765,2) Material Name : "Luft 27.5 x 10.0 mm" Lambda=0,1045  
MaterialBox - (0, 72, 760,0) x (750, 82, 765,2) Material Name : "Polyester" Lambda=0,04  
MaterialBox - (0, 70, 760,0) x (750, 72, 765,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (9,5, 40, 760,0) x (750, 46, 765,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (10,5, 42, 760,0) x (750, 44, 765,2) Material Name : "Luft 2.0 x 22.5 mm" Lambda=0,1  
MaterialBox - (9,5, 46, 760,0) x (750, 70, 765,2) Material Name : "Luft 9.0 x 18.0 mm" Lambda=0,0525  
MaterialBox - (0, 82, 760,0) x (750, 91, 765,2) Material Name : "Silikonversiegelung" Lambda=0,25  
MaterialBox - (0, 91, 760,0) x (30, 97, 765,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 91, 760,0) x (15, 97, 765,2) Material Name : "Luft 6.0 x 30.0 mm" Lambda=0,0323  
MaterialBox - (0, 97, 760,0) x (27, 99, 765,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 97, 760,0) x (25, 99, 765,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 760,0) x (26, 101, 765,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (23, 101, 760,0) x (24, 103, 765,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 101, 760,0) x (23, 106, 765,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 106, 760,0) x (18, 108, 765,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 108, 760,0) x (16, 110, 765,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 110, 760,0) x (8, 112, 765,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (6, 99, 760,0) x (21, 105, 765,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 105, 760,0) x (14, 107, 765,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 99, 760,0) x (8, 109, 765,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 760,0) x (6, 103, 765,2) Material Name : "Luft 4.0 x 12.0 mm" Lambda=0,0296  
MaterialBox - (8, 99, 760,0) x (12, 105, 765,2) Material Name : "Luft 6.0 x 4.0 mm" Lambda=0,028  
MaterialBox - (12, 99, 760,0) x (18, 101, 765,2) Material Name : "Luft 2.0 x 6.0 mm" Lambda=0,0264  
MaterialBox - (32, 32, 760,0) x (750, 40, 765,2) Material Name : "Stahl" Lambda=60  
MaterialBox - (30, 22, 760,0) x (75, 32, 765,2) Material Name : "Stahl" Lambda=60  
MaterialBox - (30, 6,5, 760,0) x (35,6, 22, 765,2) Material Name : "Kunststoff Heizband" Lambda=0,3  
MaterialBox - (31,8, 9,3, 760,0) x (33,8, 19,2, 765,2) Material Name : "Kunststoff Heizband" Lambda=0,3

Testbeispiel 2 des WALTER-Preview

15. 1. 2005

Glasdach mit Beheizungsmöglichkeit der Tragkonstruktion

Berechnung der Temperaturverteilung

dreidimensionale, stationäre Durchrechnung

Dr. Klaus Krec

Datei: D:\Entw\Walter\WalterWorkDir\Beispiel\_2.xml

### Detailangaben zu der Bateilkonstruktionseingabe

PowerBox - (31,8, 9,3, 760,0) x (33,8, 19,2, 765,2) Power Name : "PS 1"

Layer - Name: "Luft Dichtung" Depth= 0,3

SpaceBox - (0, -100, 765,2) x (750, 80, 765,5) Room Name : "Room 1" Surface Name : "innen" Alpha=13,5  
SpaceBox - (0, 80, 765,2) x (750, 150, 765,5) Room Name : "Room 0" Surface Name : "ausssen" Alpha=20  
MaterialBox - (0, 0, 765,2) x (30, 40, 765,5) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 765,2) x (9,5, 72, 765,5) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 40, 765,2) x (7,5, 70, 765,5) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 765,2) x (6, 67,5, 765,5) Material Name : "Luft 27.5 x 10.0 mm" Lambda=0,1045  
MaterialBox - (0, 72, 765,2) x (750, 82, 765,5) Material Name : "Polyester" Lambda=0,04  
MaterialBox - (0, 70, 765,2) x (750, 72, 765,5) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (9,5, 40, 765,2) x (750, 46, 765,5) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (10,5, 42, 765,2) x (750, 44, 765,5) Material Name : "Luft 2.0 x 22.5 mm" Lambda=0,1  
MaterialBox - (9,5, 46, 765,2) x (750, 70, 765,5) Material Name : "Luft 9.0 x 18.0 mm" Lambda=0,0525  
MaterialBox - (0, 82, 765,2) x (750, 91, 765,5) Material Name : "Silikonversiegelung" Lambda=0,25  
MaterialBox - (0, 91, 765,2) x (30, 97, 765,5) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 91, 765,2) x (15, 97, 765,5) Material Name : "Luft 6.0 x 30.0 mm" Lambda=0,0323  
MaterialBox - (0, 97, 765,2) x (27, 99, 765,5) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 97, 765,2) x (25, 99, 765,5) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 765,2) x (26, 101, 765,5) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (23, 101, 765,2) x (24, 103, 765,5) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 101, 765,2) x (23, 106, 765,5) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 106, 765,2) x (18, 108, 765,5) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 108, 765,2) x (16, 110, 765,5) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 110, 765,2) x (8, 112, 765,5) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (6, 99, 765,2) x (21, 105, 765,5) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 105, 765,2) x (14, 107, 765,5) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 99, 765,2) x (8, 109, 765,5) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 765,2) x (6, 103, 765,5) Material Name : "Luft 4.0 x 12.0 mm" Lambda=0,0296  
MaterialBox - (8, 99, 765,2) x (12, 105, 765,5) Material Name : "Luft 6.0 x 4.0 mm" Lambda=0,028  
MaterialBox - (12, 99, 765,2) x (18, 101, 765,5) Material Name : "Luft 2.0 x 6.0 mm" Lambda=0,0264  
MaterialBox - (32, 32, 765,2) x (750, 40, 765,5) Material Name : "Stahl" Lambda=60  
MaterialBox - (30, 22, 765,2) x (75, 32, 765,5) Material Name : "Stahl" Lambda=60  
MaterialBox - (30, 6,5, 765,2) x (35,6, 22, 765,5) Material Name : "Kunststoff Heizband" Lambda=0,3  
MaterialBox - (31,8, 9,3, 765,2) x (33,8, 19,2, 765,5) Material Name : "Kunststoff Heizband" Lambda=0,3

Layer - Name: "Beilagscheibe" Depth= 1,7

SpaceBox - (0, -100, 765,5) x (750, 80, 767,2) Room Name : "Room 1" Surface Name : "innen" Alpha=13,5  
SpaceBox - (0, 80, 765,5) x (750, 150, 767,2) Room Name : "Room 0" Surface Name : "ausssen" Alpha=20  
MaterialBox - (0, 0, 765,5) x (30, 40, 767,2) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 765,5) x (750, 72, 767,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 40, 765,5) x (7,5, 70, 767,2) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 765,5) x (6, 67,5, 767,2) Material Name : "Luft 27.5 x 10.0 mm" Lambda=0,1045  
MaterialBox - (0, 72, 765,5) x (750, 82, 767,2) Material Name : "Polyester" Lambda=0,04  
MaterialBox - (0, 82, 765,5) x (750, 91, 767,2) Material Name : "Silikonversiegelung" Lambda=0,25  
MaterialBox - (0, 91, 765,5) x (30, 97, 767,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 91, 765,5) x (15, 97, 767,2) Material Name : "Luft 6.0 x 30.0 mm" Lambda=0,0323  
MaterialBox - (0, 97, 765,5) x (27, 99, 767,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 97, 765,5) x (25, 99, 767,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 765,5) x (26, 101, 767,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (23, 101, 765,5) x (24, 103, 767,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 101, 765,5) x (23, 106, 767,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 106, 765,5) x (18, 108, 767,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 108, 765,5) x (16, 110, 767,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 110, 765,5) x (8, 112, 767,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (6, 99, 765,5) x (21, 105, 767,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 105, 765,5) x (14, 107, 767,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 99, 765,5) x (8, 109, 767,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 765,5) x (6, 103, 767,2) Material Name : "Luft 4.0 x 12.0 mm" Lambda=0,0296  
MaterialBox - (8, 99, 765,5) x (12, 105, 767,2) Material Name : "Luft 6.0 x 4.0 mm" Lambda=0,028  
MaterialBox - (12, 99, 765,5) x (18, 101, 767,2) Material Name : "Luft 2.0 x 6.0 mm" Lambda=0,0264

Testbeispiel 2 des WALTER-Preview

15. 1. 2005

Glasdach mit Beheizungsmöglichkeit der Tragkonstruktion

Berechnung der Temperaturverteilung

dreidimensionale, stationäre Durchrechnung

Dr. Klaus Krec

Datei: D:\Entw\Walter\WalterWorkDir\Beispiel\_2.xml

### Detailangaben zu der Bateilkonstruktionseingabe

MaterialBox - (32, 32, 765,5) x (750, 40, 767,2) Material Name : "Stahl" Lambda=60  
MaterialBox - (30, 22, 765,5) x (75, 32, 767,2) Material Name : "Stahl" Lambda=60  
MaterialBox - (44, 20, 765,5) x (66, 22, 767,2) Material Name : "Stahl" Lambda=60  
MaterialBox - (30, 6,5, 765,5) x (35,6, 22, 767,2) Material Name : "Kunststoff Heizband" Lambda=0,3  
MaterialBox - (31,8, 9,3, 765,5) x (33,8, 19,2, 767,2) Material Name : "Kunststoff Heizband" Lambda=0,3  
PowerBox - (31,8, 9,3, 765,5) x (33,8, 19,2, 767,2) Power Name : "PS 1"

Layer - Name: "Beilagscheibe" Depth= 0,3

SpaceBox - (0, -100, 767,2) x (750, 80, 767,5) Room Name : "Room 1" Surface Name : "innen" Alpha=13,5  
SpaceBox - (0, 80, 767,2) x (750, 150, 767,5) Room Name : "Room 0" Surface Name : "ausssen" Alpha=20  
MaterialBox - (0, 0, 767,2) x (30, 40, 767,5) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 767,2) x (750, 72, 767,5) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 40, 767,2) x (7,5, 70, 767,5) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 767,2) x (6, 67,5, 767,5) Material Name : "Luft 27.5 x 10.0 mm" Lambda=0,1045  
MaterialBox - (0, 72, 767,2) x (750, 82, 767,5) Material Name : "Polyester" Lambda=0,04  
MaterialBox - (0, 82, 767,2) x (750, 91, 767,5) Material Name : "Silikonversiegelung" Lambda=0,25  
MaterialBox - (0, 91, 767,2) x (30, 97, 767,5) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 91, 767,2) x (15, 97, 767,5) Material Name : "Luft 6.0 x 30.0 mm" Lambda=0,0323  
MaterialBox - (0, 97, 767,2) x (27, 99, 767,5) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 97, 767,2) x (25, 99, 767,5) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 767,2) x (26, 101, 767,5) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (23, 101, 767,2) x (24, 103, 767,5) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 101, 767,5) x (23, 106, 767,5) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 106, 767,2) x (18, 108, 767,5) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 108, 767,2) x (16, 110, 767,5) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 110, 767,2) x (8, 112, 767,5) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (6, 99, 767,2) x (21, 105, 767,5) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 105, 767,2) x (14, 107, 767,5) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 99, 767,2) x (8, 109, 767,5) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 767,2) x (6, 103, 767,5) Material Name : "Luft 4.0 x 12.0 mm" Lambda=0,0296  
MaterialBox - (8, 99, 767,2) x (12, 105, 767,5) Material Name : "Luft 6.0 x 4.0 mm" Lambda=0,028  
MaterialBox - (12, 99, 767,2) x (18, 101, 767,5) Material Name : "Luft 2.0 x 6.0 mm" Lambda=0,0264  
MaterialBox - (32, 32, 767,2) x (750, 40, 767,5) Material Name : "Stahl" Lambda=60  
MaterialBox - (30, 22, 767,2) x (75, 32, 767,5) Material Name : "Stahl" Lambda=60  
MaterialBox - (44, 20, 767,2) x (66, 22, 767,5) Material Name : "Stahl" Lambda=60  
MaterialBox - (30, 6,5, 767,2) x (35,6, 22, 767,5) Material Name : "Kunststoff Heizband" Lambda=0,3  
MaterialBox - (31,8, 9,3, 767,2) x (33,8, 19,2, 767,5) Material Name : "Kunststoff Heizband" Lambda=0,3  
PowerBox - (31,8, 9,3, 767,2) x (33,8, 19,2, 767,5) Power Name : "PS 1"

Layer - Name: "U-Profil" Depth= 1,7

SpaceBox - (0, -100, 767,5) x (750, 80, 769,2) Room Name : "Room 1" Surface Name : "innen" Alpha=13,5  
SpaceBox - (0, 80, 767,5) x (750, 150, 769,2) Room Name : "Room 0" Surface Name : "ausssen" Alpha=20  
MaterialBox - (0, 0, 767,5) x (30, 40, 769,2) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 767,5) x (750, 72, 769,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 40, 767,5) x (7,5, 70, 769,2) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 767,5) x (6, 67,5, 769,2) Material Name : "Luft 27.5 x 10.0 mm" Lambda=0,1045  
MaterialBox - (0, 72, 767,5) x (750, 82, 769,2) Material Name : "Polyester" Lambda=0,04  
MaterialBox - (0, 82, 767,5) x (750, 91, 769,2) Material Name : "Silikonversiegelung" Lambda=0,25  
MaterialBox - (0, 91, 767,5) x (30, 97, 769,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 91, 767,5) x (15, 97, 769,2) Material Name : "Luft 6.0 x 30.0 mm" Lambda=0,0323  
MaterialBox - (0, 97, 767,5) x (27, 99, 769,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 97, 767,5) x (25, 99, 769,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 767,5) x (26, 101, 769,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (23, 101, 767,5) x (24, 103, 769,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 101, 767,5) x (23, 106, 769,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 106, 767,5) x (18, 108, 769,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 108, 767,5) x (16, 110, 769,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 110, 767,5) x (8, 112, 769,2) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (6, 99, 767,5) x (21, 105, 769,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 105, 767,5) x (14, 107, 769,2) Material Name : "Aluminium" Lambda=200

Testbeispiel 2 des WALTER-Preview

15. 1. 2005

Glasdach mit Beheizungsöglichkeit der Tragkonstruktion

Berechnung der Temperaturverteilung

dreidimensionale, stationäre Durchrechnung

Dr. Klaus Krec

Datei: D:\Entw\Walter\WalterWorkDir\Beispiel\_2.xml

### Detailangaben zu der Bateilkonstruktioneingabe

MaterialBox - (6, 99, 767,5) x (8, 109, 769,2) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 767,5) x (6, 103, 769,2) Material Name : "Luft 4.0 x 12.0 mm" Lambda=0,0296  
MaterialBox - (8, 99, 767,5) x (12, 105, 769,2) Material Name : "Luft 6.0 x 4.0 mm" Lambda=0,028  
MaterialBox - (12, 99, 767,5) x (18, 101, 769,2) Material Name : "Luft 2.0 x 6.0 mm" Lambda=0,0264  
MaterialBox - (32, 32, 767,5) x (750, 40, 769,2) Material Name : "Stahl" Lambda=60  
MaterialBox - (30, 22, 767,5) x (75, 32, 769,2) Material Name : "Stahl" Lambda=60  
MaterialBox - (44, 20, 767,5) x (66, 22, 769,2) Material Name : "Stahl" Lambda=60  
MaterialBox - (46, 5, 767,5) x (64, 20, 769,2) Material Name : "Stahl" Lambda=60  
MaterialBox - (30, 6,5, 767,5) x (35,6, 22, 769,2) Material Name : "Kunststoff Heizband" Lambda=0,3  
MaterialBox - (31,8, 9,3, 767,5) x (33,8, 19,2, 769,2) Material Name : "Kunststoff Heizband" Lambda=0,3  
PowerBox - (31,8, 9,3, 767,5) x (33,8, 19,2, 769,2) Power Name : "PS 1"

Layer - Name: "U-Profil" Depth= 0,8

SpaceBox - (0, -100, 769,2) x (750, 80, 770,0) Room Name : "Room 1" Surface Name : "innen" Alpha=13,5  
SpaceBox - (0, 80, 769,2) x (750, 150, 770,0) Room Name : "Room 0" Surface Name : "ausen" Alpha=20  
MaterialBox - (0, 0, 769,2) x (30, 40, 770,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 769,2) x (750, 72, 770,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 40, 769,2) x (750, 70, 770,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 769,2) x (7,5, 70, 770,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 769,2) x (6, 67,5, 770,0) Material Name : "Luft 27.5 x 10.0 mm" Lambda=0,1045  
MaterialBox - (0, 72, 769,2) x (750, 82, 770,0) Material Name : "Polyester" Lambda=0,04  
MaterialBox - (0, 82, 769,2) x (750, 91, 770,0) Material Name : "Silikonversiegelung" Lambda=0,25  
MaterialBox - (0, 91, 769,2) x (30, 97, 770,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 91, 769,2) x (15, 97, 770,0) Material Name : "Luft 6.0 x 30.0 mm" Lambda=0,0323  
MaterialBox - (0, 97, 769,2) x (27, 99, 770,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 97, 769,2) x (25, 99, 770,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 769,2) x (26, 101, 770,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (23, 101, 769,2) x (24, 103, 770,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 101, 769,2) x (23, 106, 770,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 106, 769,2) x (18, 108, 770,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 108, 769,2) x (16, 110, 770,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 110, 769,2) x (8, 112, 770,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (6, 99, 769,2) x (21, 105, 770,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 105, 769,2) x (14, 107, 770,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 99, 769,2) x (8, 109, 770,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 769,2) x (6, 103, 770,0) Material Name : "Luft 4.0 x 12.0 mm" Lambda=0,0296  
MaterialBox - (8, 99, 769,2) x (12, 105, 770,0) Material Name : "Luft 6.0 x 4.0 mm" Lambda=0,028  
MaterialBox - (12, 99, 769,2) x (18, 101, 770,0) Material Name : "Luft 2.0 x 6.0 mm" Lambda=0,0264  
MaterialBox - (32, 32, 769,2) x (750, 40, 770,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (30, 22, 769,2) x (75, 32, 770,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (44, 20, 769,2) x (66, 22, 770,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (46, 5, 769,2) x (64, 20, 770,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (30, 6,5, 769,2) x (35,6, 22, 770,0) Material Name : "Kunststoff Heizband" Lambda=0,3  
MaterialBox - (31,8, 9,3, 769,2) x (33,8, 19,2, 770,0) Material Name : "Kunststoff Heizband" Lambda=0,3  
PowerBox - (31,8, 9,3, 769,2) x (33,8, 19,2, 770,0) Power Name : "PS 1"

Layer - Name: "Luft U-Profil" Depth= 1

SpaceBox - (0, -100, 770,0) x (750, 80, 771,0) Room Name : "Room 1" Surface Name : "innen" Alpha=13,5  
SpaceBox - (0, 80, 770,0) x (750, 150, 771,0) Room Name : "Room 0" Surface Name : "ausen" Alpha=20  
MaterialBox - (0, 0, 770,0) x (30, 40, 771,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 770,0) x (750, 72, 771,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 40, 770,0) x (750, 70, 771,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 770,0) x (750, 67,5, 771,0) Material Name : "Luft 27.5 x 10.0 mm" Lambda=0,1045  
MaterialBox - (0, 72, 770,0) x (750, 82, 771,0) Material Name : "Polyester" Lambda=0,04  
MaterialBox - (0, 82, 770,0) x (750, 91, 771,0) Material Name : "Silikonversiegelung" Lambda=0,25  
MaterialBox - (0, 91, 770,0) x (30, 97, 771,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 91, 770,0) x (15, 97, 771,0) Material Name : "Luft 6.0 x 30.0 mm" Lambda=0,0323  
MaterialBox - (0, 97, 770,0) x (27, 99, 771,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 97, 770,0) x (25, 99, 771,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 770,0) x (26, 101, 771,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (23, 101, 770,0) x (24, 103, 771,0) Material Name : "Silikon-Dichtung" Lambda=0,18

Testbeispiel 2 des WALTER-Preview

15. 1. 2005

Glasdach mit Beheizungsmöglichkeit der Tragkonstruktion

Berechnung der Temperaturverteilung

dreidimensionale, stationäre Durchrechnung

Dr. Klaus Krec

Datei: D:\Entw\Walter\WalterWorkDir\Beispiel\_2.xml

### Detailangaben zu der Beteilkonstruktionseingabe

MaterialBox - (0, 101, 770,0) x (23, 106, 771,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 106, 770,0) x (18, 108, 771,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 108, 770,0) x (16, 110, 771,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 110, 770,0) x (8, 112, 771,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (6, 99, 770,0) x (21, 105, 771,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 105, 770,0) x (14, 107, 771,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 99, 770,0) x (8, 109, 771,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 770,0) x (6, 103, 771,0) Material Name : "Luft 4.0 x 12.0 mm" Lambda=0,0296  
MaterialBox - (8, 99, 770,0) x (12, 105, 771,0) Material Name : "Luft 6.0 x 4.0 mm" Lambda=0,028  
MaterialBox - (12, 99, 770,0) x (18, 101, 771,0) Material Name : "Luft 2.0 x 6.0 mm" Lambda=0,0264  
MaterialBox - (32, 32, 770,0) x (750, 40, 771,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (30, 22, 770,0) x (75, 32, 771,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (44, 20, 770,0) x (66, 22, 771,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (46, 5, 770,0) x (64, 20, 771,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (30, 6,5, 770,0) x (35,6, 22, 771,0) Material Name : "Kunststoff Heizband" Lambda=0,3  
MaterialBox - (31,8, 9,3, 770,0) x (33,8, 19,2, 771,0) Material Name : "Kunststoff Heizband" Lambda=0,3  
PowerBox - (31,8, 9,3, 770,0) x (33,8, 19,2, 771,0) Power Name : "PS 1"

Layer - Name: "T-Stueck QSt." Depth= 4

SpaceBox - (0, -100, 771,0) x (750, 80, 775,0) Room Name : "Room 1" Surface Name : "innen" Alpha=13,5  
SpaceBox - (0, 80, 771,0) x (750, 150, 775,0) Room Name : "Room 0" Surface Name : "ausssen" Alpha=20  
MaterialBox - (0, 0, 771,0) x (30, 40, 775,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 771,0) x (750, 72, 775,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 40, 771,0) x (750, 70, 775,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (0, 40, 771,0) x (750, 67,5, 775,0) Material Name : "Luft 27.5 x 10.0 mm" Lambda=0,1045  
MaterialBox - (0, 72, 771,0) x (750, 82, 775,0) Material Name : "Polyester" Lambda=0,04  
MaterialBox - (0, 82, 771,0) x (750, 91, 775,0) Material Name : "Silikonversiegelung" Lambda=0,25  
MaterialBox - (0, 91, 771,0) x (30, 97, 775,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 91, 771,0) x (15, 97, 775,0) Material Name : "Luft 6.0 x 30.0 mm" Lambda=0,0323  
MaterialBox - (0, 97, 771,0) x (27, 99, 775,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 97, 771,0) x (25, 99, 775,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 771,0) x (26, 101, 775,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (23, 101, 771,0) x (24, 103, 775,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 101, 771,0) x (23, 106, 775,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 106, 771,0) x (18, 108, 775,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 108, 771,0) x (16, 110, 775,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (0, 110, 771,0) x (8, 112, 775,0) Material Name : "Silikon-Dichtung" Lambda=0,18  
MaterialBox - (6, 99, 771,0) x (21, 105, 775,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 105, 771,0) x (14, 107, 775,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (6, 99, 771,0) x (8, 109, 775,0) Material Name : "Aluminium" Lambda=200  
MaterialBox - (0, 99, 771,0) x (6, 103, 775,0) Material Name : "Luft 4.0 x 12.0 mm" Lambda=0,0296  
MaterialBox - (8, 99, 771,0) x (12, 105, 775,0) Material Name : "Luft 6.0 x 4.0 mm" Lambda=0,028  
MaterialBox - (12, 99, 771,0) x (18, 101, 775,0) Material Name : "Luft 2.0 x 6.0 mm" Lambda=0,0264  
MaterialBox - (32, 32, 771,0) x (750, 40, 775,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (30, 22, 771,0) x (75, 32, 775,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (44, 20, 771,0) x (66, 22, 775,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (88,5, -3, 771,0) x (750, 40, 775,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (46, 5, 771,0) x (64, 20, 775,0) Material Name : "Stahl" Lambda=60  
MaterialBox - (30, 6,5, 771,0) x (35,6, 22, 775,0) Material Name : "Kunststoff Heizband" Lambda=0,3  
MaterialBox - (31,8, 9,3, 771,0) x (33,8, 19,2, 775,0) Material Name : "Kunststoff Heizband" Lambda=0,3  
PowerBox - (31,8, 9,3, 771,0) x (33,8, 19,2, 775,0) Power Name : "PS 1"

Rooms :

Room 1  
Room 0

Powers :

PS 1