

Setting a new calculation

The calculation options can be set in the calculation options section located at the top of the screen. This section should contain a number of active drop down menus. Please note that if only the application area field appears as a drop down menu then it is necessary to find the button "new calculation" in the results section, pressing this button will reactivate all of the drop down menus.

By selecting different combinations of options within the calculation options section the calculation to be carried out will change. The fields contained in the calculation options section have the following effects:

Field	Effect upon calculation
Application Area	Products for which the calculation is carried out are selected dependent upon the selection of application area.
Product	Determines for which product the calculation will be executed
Direction	Determines the objective variable of the calculation.
Object	The type of object (ie pipe, duct etc) of the calculation. Some calculations are slightly different for different objects.
Medium	The medium inside the object can affect the internal surface coefficient as well as a number of variables used for temperature change calculations.
Calculate	Determines the actual calculation to be used. This impacts upon the input fields presented and the equations used to calculate the result.
Pipe Kind	Determines the range of pipe sizes to be used when the "calculate for pipe range" button has been selected.
Default Settings	Default Settings fill in certain fields (dependent upon which scenario has been selected).

For screen layout please see picture below:

Please select the options your calculation should based on ...

Application Area	Air Conditioning & Refrigeration <input type="checkbox"/>
Direction	insulation thickness have to be calculated <input type="checkbox"/>
Object	Pipe <input type="checkbox"/>
Medium	Liquid <input type="checkbox"/>
Calculate ...	Condensation control <input type="checkbox"/>
Type of object	Cu <input type="checkbox"/>



Results

In order to generate a set of results for a given calculation objective please press enter all required variables and press the button marked "Calculate". This should generate a table resembling the following for each product line:

Pipe Cu		Reference	Nom. Insulation Thickness (mm)	Min. Insulation Thickness (mm)	Calculated Thermal Conductivity λ W/(m · K)	Dewpoint Temperature °C
Outer Diameter (mm)	Inner Diameter (mm)	CO-19X035	19	17.7	0.0366	28.9

For further advise on how to apply Armacell products please consult the relevant application manual.

The results in the table above should be interpreted as following:

Reference: Shows the catalogue reference of the recommended product from Armacell .

Nom. Insulation Thickness: Shows the smallest insulation thickness, of the product line from Armacell to which the results table relates.

Min. Insulation Thickness: Shows the calculated insulation thickness representing the minimum amount of insulation required of the product to which the table relates in order to satisfy the required properties.

Please note that in the result for the "Min. Insulation thickness" and therefore the recommended product is based on the variables you entered. The result can just be as accurate as the entered variables. Also note that when calculating for "insulation thickness: known" these cells contain different, calculation relevant, information.

Thermal Conductivity: Shows the thermal conductivity of the product to which that table relates at the given temperature gradient. This thermal conductivity value is a calculated based on the entered variables.

Printing & Saving Results

Armwin AS offers the opportunity to save and print result tables.

This can be done by pressing the "save this result" button above the table which is to be saved. Once this has been done the screen should refresh and a new button, outlined in red, labelled "go to saved results" will appear.

CALCULATION RESULTS

According to the given values above the calculation results are as followed...

AF/ARMAFLEX- The revolutionary insulation with double performance: reliable condensation control and effective energy saving

Pipe Cu			Nom. Insulation Thickness (mm)	Min. Insulation Thickness (mm)	Calculated	
Outer Diameter (mm)	Inner Diameter (mm)	Reference			Thermal Conductivity λ W/(m · K)	Dewpoint Temperature °C
54	51,6	AF-1-054	9	4,1	0,0335	5,6

For further advise on how to apply Armacell products please consult the relevant application manual.

[New calculation](#)

One saved calculation

[Go to Calculation Report](#)

Please note that only saved results can be printed - Select the product of your choice and press the saved result button beside it. Open saved results by pressing saved result button.

Pressing this button will take you to the "Calculation Report" containing all of the saved results along with the input parameters used to arrive at them. A further button labelled "print saved results" can be pressed to print the active screen.

In order to clear the entire selection of saved results please press the button "clear all results".

It is also possible to clear individual saved results. Do this by pressing the small cross in the top right hand corner of the saved result. This will delete only the individual saved result.

Calculation for range of pipe sizes

Armwin offers the option to calculate results for a range of different pipe sizes through a single button press. In order to calculate results for an entire range of pipe sizes it is first necessary to carry out a calculation as normal for a single calculation objective.

If the calculation was relating to a pipe then the button "calculate for pipe range" should appear above the results table for each product. Press this button and the calculation will be rerun with the "Outer Diameter" variable changed each time for a range of pipe sizes.

CALCULATION RESULTS

According to the given values above the calculation results are as followed...

Save Result Calculate for pipe range Product info

CLASS O ARMAFLEX- Professional Insulation that Prevents Condensation and Energy Losses

Pipe Cu			Nom. Insulation Thickness (mm)	Min. Insulation Thickness (mm)	Calculated Thermal Conductivity λ W/(m · K)	Dewpoint Temperature °C
Outer Diameter (mm)	Inner Diameter (mm)	Reference				
34	31.7	C0-19X035	19	17.7	0.0366	28.9

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The pipe size values used in the calculation are dependent upon the kind of pipe selected in the calculation options section.

CALCULATION RESULTS

According to the given values above the calculation results are as followed...

Save Result Product info

CLASS O ARMAFLEX- Professional Insulation that Prevents Condensation and Energy Losses

Pipe Cu			Nom. Insulation Thickness (mm)	Min. Insulation Thickness (mm)	Calculated Thermal Conductivity λ W/(m · K)	Dewpoint Temperature °C
Outer Diameter (mm)	Inner Diameter (mm)	Reference				
10	8.8	C0-19X010	19	13.7	0.0366	28.9
12	10.8	C0-19X012	19	14.3	0.0366	28.9
12.7	11.1	Multi-layer insulation will be necessary. Please contact our Technical Service for the right combination - 0044 (0)161 287 7100		14.5	0.0366	28.9
15	13.6	C0-19X015	19	15	0.0366	28.9
22	20.2	C0-19X022	19	16.3	0.0366	28.9
28	26.2	C0-19X028	19	17.1	0.0366	28.9
35	32.6	C0-19X035	19	17.8	0.0366	28.9
42	39.6	C0-19X042	19	18.4	0.0366	28.9
54	51.6	C0-25X054	25	19.2	0.0366	28.9
76.1	73.1	C0-25X076	25	20.2	0.0366	28.9
108	105	C0-25X108	25	21.1	0.0366	28.9
133	127	Sheet: C0-R-99	25	21.6	0.0366	28.9
159	153	Sheet: C0-R-99	25	22	0.0366	28.9
219	213	Sheet: C0-R-99	25	22.6	0.0366	28.9
267	261	Sheet: C0-R-99	25	22.9	0.0366	28.9

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New calculation

One saved calculation
[Go to Calculation Report](#)

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