

No. IX Organizing Data Including Information about Tests

Introduction:

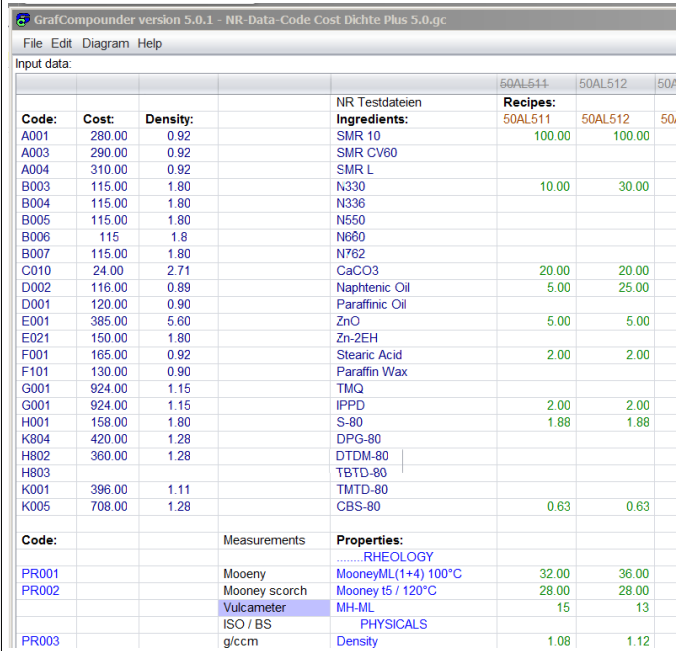
GrafCompounder offers less flexibility than a table calculation program. However, information about test conditions or measures can still be easily incorporated into the “input data” window, providing a convenient and organized overview.

This **Tips&Tricks IX** continued from **Tips&Tricks VIII**.

Example III:

For this example we select a file containing the **Code:**, **Density:**, and **Cost:** column.

- Inserting the new column inbetween other columns has no effect on the Input data table needed to operate the program (**Fig:1:**)
- Alternatively, you may want to see the units of measurement on the left side of the properties. You can insert an empty column between **Ingredients:** and **Recipes:** columns. Copy all cells with your units/measurements and paste them into the newly created column. Delete the emptied column using the pull-down menu (**Fig. 2**).
- **To give a bit more structure** to the measurement / units column I recommend (**Fig.:3**)
 - Use capital letters for the header cell.
 - Center the header using either spaces or dots (whichever you prefer).
 - For the **Compression Set** data it is recommended to have information about:



GrafCompounder version 5.0.1 - NR-Data-Code Cost Dichte Plus 5.0.gc

Input data:				50AL511	50AL512	50AL513
Code:	Cost:	Density:	NR Testdateien	Recipes:		
A001	280.00	0.92	Ingredients:	50AL511	50AL512	50AL513
A003	290.00	0.92	SMR 10	100.00	100.00	
A004	310.00	0.92	SMR CV60			
B003	115.00	1.80	SMR L			
B004	115.00	1.80	N330	10.00	30.00	
B005	115.00	1.80	N336			
B006	115	1.8	N550			
B007	115.00	1.80	N660			
C010	24.00	2.71	N762			
D002	116.00	0.89	CaCO3	20.00	20.00	
D001	120.00	0.90	Naphtenic Oil	5.00	25.00	
E001	385.00	5.60	Paraffinic Oil			
E021	150.00	1.80	ZnO	5.00	5.00	
F001	165.00	0.92	Zn-2EH			
F101	130.00	0.90	Stearic Acid	2.00	2.00	
G001	924.00	1.15	Paraffin Wax			
G001	924.00	1.15	TMQ			
H001	158.00	1.80	IPPD	2.00	2.00	
K804	420.00	1.28	S-80	1.88	1.88	
H802	360.00	1.28	DPG-80			
H803			DTDM-80			
K001	396.00	1.11	TBTD-80			
K005	708.00	1.28	TMTD-80			
			CBS-80	0.63	0.63	
Code:			Measurements			
PR001			Mooney	MooneyML(1+4) 100°C	32.00	36.00
PR002			Mooney scorch	Mooney t5 / 120°C	28.00	28.00
			Vulcameter	MH-ML	15	13
			ISO / BS	PHYSICALS		
PR003			g/ccm	Density	1.08	1.12

Fig. 1: Screen Shot Grafcompounder 5.0



GrafCompounder version 5.0.1 - NR-Data-Code Cost Dichte Plus 5.0.gc

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A003	290.00	0.92	SMR 10	100.00	100.00	
A004	310.00	0.92	SMR CV60			
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G001	924.00	1.15	Paraffin Wax			
G001	924.00	1.15	TMQ			
H001	158.00	1.80	IPPD	2.00	2.00	
K804	420.00	1.28	S-80	1.88	1.88	
H802	360.00	1.28	DPG-80			
H803			DTDM-80			
K001	396.00	1.11	TBTD-80			
K005	708.00	1.28	TMTD-80			
			CBS-80	0.63	0.63	
Code:			Properties:			
PR001		RHEOLOGY			
PR002			MooneyML(1+4) 100°C	Mooney	32.00	36.00
			Mooney t5 / 120°C	Mooney scorch	28.00	28.00
			MH-ML	Vulcameter	15	13
			PHYSICALS	ISO / BS		

Fig. 2: Screen Shot of GrafCompounder 5.0

- Method (ISO or Customer specification,...)
- Temperature / time / compression in % - normally 25% if not indicated)
- The data block **Hot Air Aging** contains temperature / time information.
- If testing Aging in different media, like oil or water, you can follow my example or create a new format.
- Note: D stands for Delta (Greek letters are not available). (**Fig.:3**)

The changes made in the **Properties:** column will show up in the criteria window. However, the added column will not be shown there. Only information underneath the cell **Properties:** in blue letters or numbers is repeated in the **Criteria: Name** column (**Fig.: 4**).

Conclusion:

There are several options to organize the **Input data:** screen and provide more structure to the input data table.

GrafCompounder version 5.0.1 - NR-Data-Code Cost Dichte Plus 5.0.gc						
File Edit Diagram Help						
Input data:						
				50AL514	50AL512	
G001	924.00	1.15	IPPD			
H001	158.00	1.80	S-80	2.00	2.00	
K804	420.00	1.28	DPG-80	1.88	1.88	
H802	360.00	1.28	DTDM-80			
H803			TBTD-80			
K001	396.00	1.11	TMTD-80			
K005	708.00	1.28	CBS-80	0.63	0.63	
Code:						
Properties:						
Measurements						
.....RHEOLOGY						
PR000			MooneyML(1+4) 100°C	MU	32.00	36.00
PR001			Mooney t5 / 120°C	min	28.00	28.00
PR003			MH-ML(165°C)	dN/m	15	13
.....PHYSICALS						
PR003			Density	g/ccm	1.08	1.12
PR004			Hardness	*ShA	42.00	41.00
PR005			M 100	MPa	0.60	0.70
PR007			M300	MPa	1.80	3.00
PR008			TS	Mpa	25.00	21.00
PR009			EB	%	785.00	725.00
.....AGING HOT AIR						
Tear ISO 34						
PR010			Tear(Trouser)Median 23°C	kN/m - 23°C	6.00	7.10
PR011			Tear(Trouser)Median 100°C	kN/m - 100°C	2.40	28.00
.....COMPRESSION SET						
Button ISO 815						
PR020			C-Set -26°C/24h	%	22.00	28.00
PR021			C-Set 0°C/24h	%	10.00	14.00
PR022			C-Set 23°C/72h	%	8.00	10.00
PR023			C-Set 70°C/24h	%	39.00	50.00
.....AGING HOT AIR						
Hot Air 7d/70°C						
PR031			D Hardness	*ShA	4.00	4.00
PR032			D M100	Delta MPa - %	20.00	40.00
PR033			D M300	Delta MPa - %	20.00	40.00
PR034			D TS	Delta MPa - %	5.00	15.00
PR035			D EB	Delta EB - %	-5.00	-5.00

Fig. 3: Screenshot of GrafCompounder 5.0

Properties:	Measurements		
.....RHEOLOGY			
MooneyML(1+4) 100°C	MU	32.00	
Mooney t5 / 120°C	min	28.00	
MH-ML(165°C)	dN/m	15	
.....PHYSICALS			
Density	g/ccm	1.08	
Hardness	*ShA	42.00	
M 100	MPa	0.60	
M300	MPa	1.80	
TS	Mpa	25.00	
EB	%	785.00	
.....AGING HOT AIR			
Tear ISO 34			
Tear(Trouser)Median 23°C	kN/m - 23°C	6.00	
Tear(Trouser)Median 100°C	kN/m - 100°C	2.40	
.....COMPRESSION SET			
Button ISO 815			
C-Set -26°C/24h	%	22.00	
C-Set 0°C/24h	%	10.00	
C-Set 23°C/72h	%	8.00	
C-Set 70°C/24h	%	39.00	
.....AGING HOT AIR			
Hot Air 7d/70°C			
D Hardness	*ShA	4.00	
D M100	Delta MPa - %	20.00	
D M300	Delta MPa - %	20.00	
D TS	Delta MPa - %	5.00	
D EB	Delta EB - %	-5.00	

.....RHEOLOGY			
MooneyML(1+4) 100°C		27	80
Mooney t5 / 120°C		8	39
MH-ML(165°C)		11.5	39
.....PHYSICALS			
Density		1.02	1.21
Hardness		40	71
M 100		0.7	2.8
M300		3	14.2
TS		15	30
EB		445	725
.....AGING HOT AIR			
Tear ISO 34			
Tear(Trouser)Median 23°C		3.9	33
Tear(Trouser)Median 100°C		4	34
.....COMPRESSION SET			
Button ISO 815			
C-Set -26°C/24h		10	83
C-Set 0°C/24h		4	16
C-Set 23°C/72h		2	18
C-Set 70°C/24h		10	61
.....AGING HOT AIR			
Hot Air 7d/70°C			
D Hardness		0	9
D M100		3	55
D M300		10	40
D TS		-20	20
D EB		-20	0

	146.51		
	1.097		
	262.484		
	239.274		
Total ingredients			
132.6; 251.5;			
Density (calc.)			
1.027; 1.214			
Cost (per vol)			
219.8; 326.3;			
Cost (per mass)			
187.5; 301.9;			

Fig. 4: Screenshot of GrafCompounder 5.0 selection of Input data: and Criterie: screen