

Investigation Process robustness linear terms

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Introduction and background

Factors

Name	Abbreviation	Units	Type	Settings
Temperature	Temp	C	Quantitative	60 to 75
Homogenisation speed	Hom	rpm	Quantitative	5000 to 1,2e+04
Polymer concentration	Pol	% (m/m)	Quantitative	0,63 to 0,77

Responses

Name	Abbreviation	Units	Condition	Objective	Min	Target	Max	Predicted min	Predicted max	Response range
Viscosity	Vis	mPas	Observed	Predicted				--	--	
Droplet size	Dro	µm	Observed	Predicted				--	--	
Physical stability	Phy		Observed	Predicted				--	--	
Whiteness	Whi		Observed	Predicted				--	--	
Viscosity Zero shear	Vis_0	Pas	Observed	Predicted				--	--	
Viscosity high shear	Vis_H	Pas	Observed	Predicted				--	--	
Flow stress	Flo		Observed	Predicted				--	--	
Firmness	Fir	g	Observed	Predicted				--	--	
Consistency	Con	gs	Observed	Predicted				--	--	
Cohesiveness	Coh	g	Observed	Predicted				--	--	
Adhesiveness	Adh	gs	Observed	Predicted				--	--	

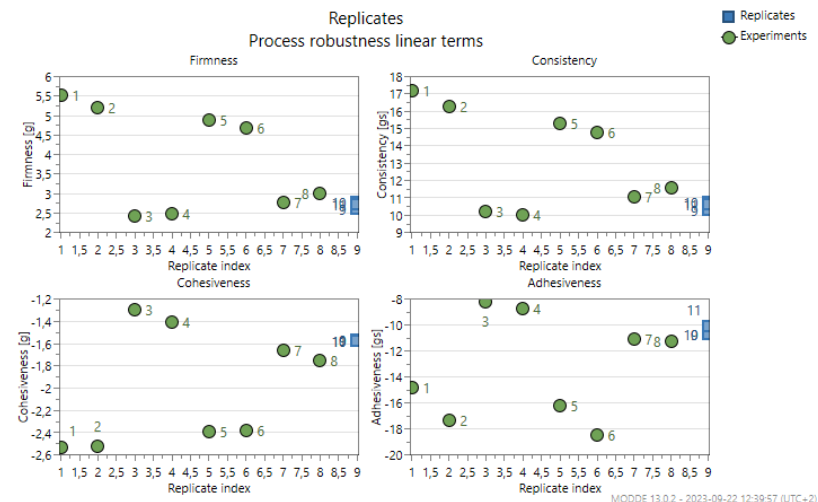
Objective, model and design

Objective	Screening
Process model	Interaction
Mixture model	--
Design	Full Fac (2 levels)
Runs in design	8
Center points	3
Replicated runs	0
Replicates	0
N = actual runs	11
Maximum runs	12000
Constraints	No

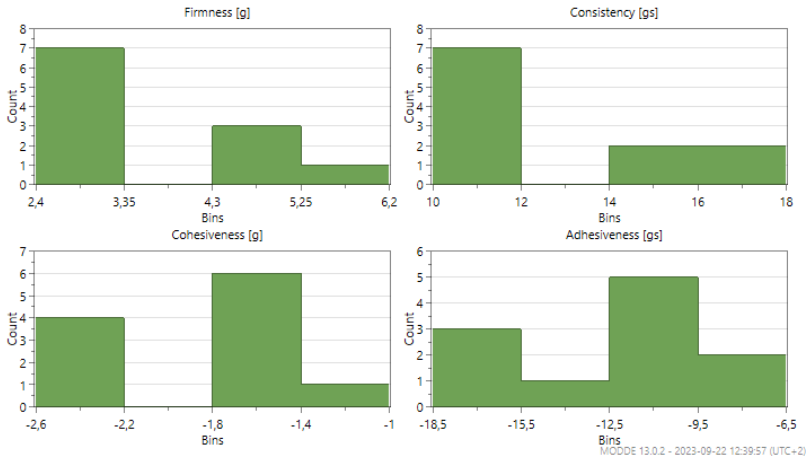
Worksheet

Exp No	Exp Name	Run Order	Incl/Excl	Temperature	Homogenisation speed	Polymer concentration	Viscosity	Droplet size	Physical stability	Whiteness	Viscosity Zero shear	Viscosity high shear	Flow stress	Firmness	Consistency	Cohesiveness	Adhesiveness
1	N1	10	Incl	60	5000	0,63	32782				1381	0,946	40,4	5,512	17,206	-2,534	-14,816
2	N2	9	Incl	75	5000	0,63	37032				1106	1,066	43,2	5,2	16,253	-2,519	-17,315
3	N3	1	Incl	60	12000	0,63	18816				306,4	0,4957	21,8	2,419	10,247	-1,291	-8,237
4	N4	6	Incl	75	12000	0,63	19050				345,2	0,5512	22,4	2,478	10,033	-1,402	-8,705
5	N5	11	Incl	60	5000	0,77	35650				993,9	1,036	32,6	4,886	15,276	-2,394	-16,188
6	N6	3	Incl	75	5000	0,77	35502				1126	1,116	51,1	4,693	14,807	-2,382	-18,422
7	N7	2	Incl	60	12000	0,77	24966				663,1	0,693	34,9	2,78	11,037	-1,664	-11,102
8	N8	5	Incl	75	12000	0,77	27684				459,5	0,7306	41,2	3,003	11,613	-1,751	-11,26
9	N9	7	Incl	67,5	8500	0,7	23750				350	0,6254	26,3	2,589	10,251	-1,57	-10,686
10	N10	4	Incl	67,5	8500	0,7	24768				527,2	0,6541	30,7	2,767	10,721	-1,582	-10,767
11	N11	8	Incl	67,5	8500	0,7	23868				472,9	0,6412	27	2,706	10,608	-1,578	-10,113

Raw data inspection

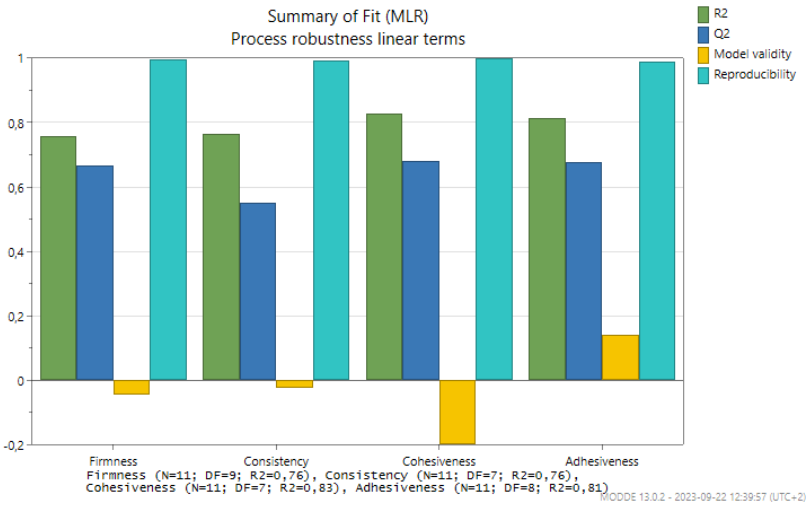


Histogram
Process robustness linear terms

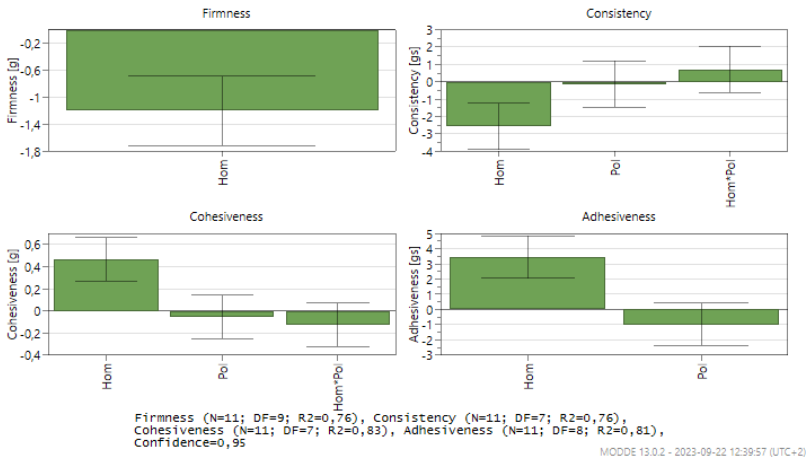


Model diagnostics

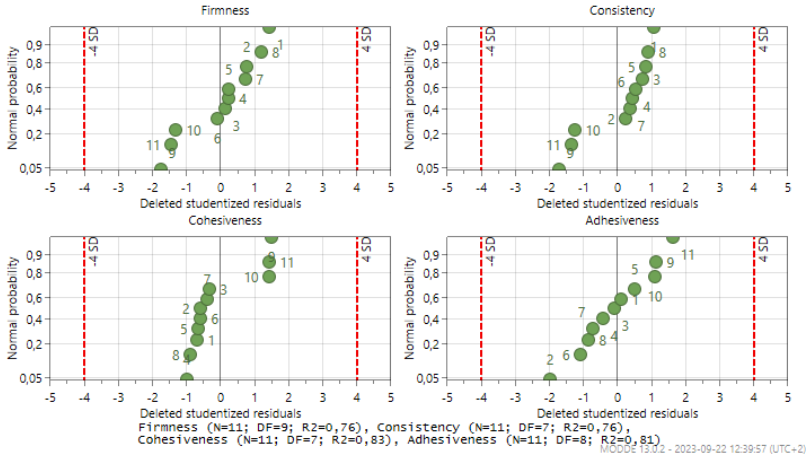
Summary of Fit (MLR)
Process robustness linear terms



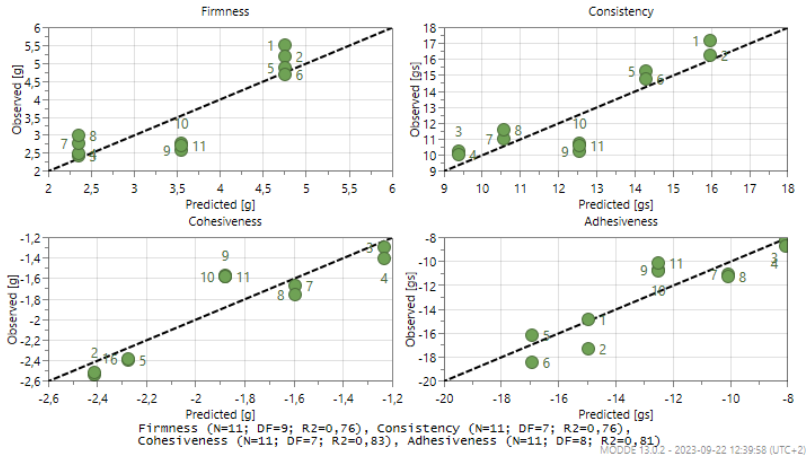
Coefficients (scaled and centered) (MLR)
Process robustness linear terms



Residuals Normal Probability (MLR)
Process robustness linear terms



Observed vs. Predicted (MLR)
Process robustness linear terms



Predictions

Insert here predicted results

Conclusion

Insert here a conclusion