Universal Batching System Interface for InkFormulation

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General description

InkFormulation writes a file in a directory specified by the user. All recipes are appended to the same file.

When you read the file check the *ProtocolVersion* in the section *Recipe* and skip unknown tags. The actual protocol version is 1.

Future versions of InkFormulation support a feedback channel from the batching system to InkFormulation. The batching system writes the feedback to another user specified file. All feedbacks are appended to the same file.

Structure of the files:

[Title1] <CR><LF>
Keyword1=<TAB>Value<CR><LF>
Keyword2=<TAB>Value1<TAB>Value2<TAB>.....<TAB>ValueN<CR><LF>
<CR><LF>
[Title2] <CR><LF>
Keyword1=<TAB>Value<CR><LF>
etc.

<TAB> means the tabulator key (ASCII-Code 9).
<CR><LF> means ASCII-Code 13 + ASCII-Code 10

Recipe files

Example of a recipe file with one recipe:

[Recipe]
ProtocolVersion=   1
Type=   Correction
ID=   example
Info=   example for the specifications
Date=   13-11-1995   14:34:15
UseLeftovers=   NO
Quantity=   1000
AddInkQuantityFactor=   0.2
IFT=   1.00000
WeightPerArea=   100

[Assortment]
ID=   Flexo-/Tiefdruck mit Pol-Filter
Info=   assortment measured with pol-filter

[Component1]

ID=   Red G5 (yellow)
Info=
Part=   0.25551

[Component2]
ID=   Transparent white
Info=
Part=   0.74449

[MeasValue]
M_Cond=   Pol   Abs
Remission= 0.37888   0.38319   0.38429   0.38296   0.38143
            0.38193   0.37853   0.36939   0.35495   0.33440
            0.31293   0.29649   0.27796   0.25664   0.25186
            0.27036   0.28476   0.28545   0.30475   0.38667
            0.52505   0.64799   0.72084   0.75583   0.77170
            0.78176   0.78905   0.79441   0.80041   0.80413
            0.81013   0.81560   0.82110   0.82452   0.82839
            0.83128

[ActRecipe]
M_Cond=   Pol   Abs
Remission= 0.39461   0.38923   0.38080   0.37778   0.37784
            0.37879   0.37946   0.37803   0.36939   0.36136
            0.34807   0.33858   0.33603   0.32715   0.31387
            0.30946   0.31851   0.33368   0.33097   0.32940
            0.38521   0.55991   0.75993   0.84538   0.87741
            0.89592   0.91200   0.92416   0.93412   0.93869
            0.94268   0.94592   0.95037   0.95209   0.95505
            0.95611

Explanations:

Title	Keyword	Explanation	Possible values
Recipe		begin of a new recipe	
	ProtocolVersion	version of the protocol for this recipe	1
	Type	type of the recipe	Basic, Correction
	ID	name	
	Info	additional information	
	Date	date and time of the creation	format: dd-mm-yyyy hh:mm:ss
	UseLeftovers	one of the components is an ink leftover	YES, NO
	Quantity	total amount of ink (in grams)	
	AddInkQuantity Factor	$\dfrac{\text{quantity of correction recipe}}{\text{quantity of basic recipe}}$ (only for correction recipes)	0...1
	IFT	ink film thickness	
	WeightPerArea	ink quantity in grams per m^2	

Title	Keyword	Explanation	Possible values
Assortment			
	ID	name	
	Info	additional information	
Component		begin of a Component	Component1...n
	ID	name	
	Info	additional information	
	Part	$\dfrac{\text{quantity of the component}}{\text{quantity of recipe}}$ (the sum of all components is 1)	0...1
MeasValue		physical data of the measuring value	
	M_Cond	measuring condition. filter: white reference:	Pol, No, D65 Abs
	Remission	spectral data (36 values)	0...1
ActRecipe		physical data of the actual recipe	
	M_Cond	measuring condition. filter: white reference:	Pol, No, D65 Abs
	Remission	spectral data (36 values)	0...1

Feedback files

The feedback file has the same structure as the recipe file. It contains recipe entries, filling level entries or both.

A recipe entry consists at least of the sections *Recipe* and *Component1* to *ComponentX*. The *ID* of the *Recipe* and the *Components* must be the same as in the recipe file. The other keywords may differ from the entries in the recipe file.

Filling level entries are a feedback from the batching system so that the InkFormulation software knows how much ink the batching system contains. They consist of the sections *FillingLevel* and *Component1* to *ComponentX*. Only the changed components must be reported.

Example of a feedback file with one recipe:

```
[Recipe]
ProtocolVersion=        1
Type=   Correction
ID=     example
Info=   example for the specifications
Date=   14-11-1995       10:23:54
UseLeftovers=  NO
Quantity=       1010
AddInkQuantityFactor=  0.2
IFT=    1.00000
WeightPerArea=          100
Error=  None

[Assortment]
ID=     Flexo-/Tiefdruck mit Pol-Filter
Info=   assortment measured with pol-filter

[Component1]
ID=     Red G5 (yellow)
Info=
Quantity=          258

[Component2]
ID=     Transparent white
Info=
Quantity=          752


 [FillingLevel]
ProtocolVersion=          1
Date=   14-11-1995         10:23:54
Quantity=       413295

[Component1]
ID=     Red G5 (yellow)
Info=
Quantity=          100056

[Component2]
ID=     Transparent white
Info=
Quantity=          98711
```

Explanations:

Title	Keyword	Explanation	Possible values
Recipe		begin of a new recipe	
	ProtocolVersion	version of the protocol for this recipe	1
	Type	type of the recipe	Basic, Correction
	ID	name	
	Info	additional information	

Title	Keyword	Explanation	Possible values
	Date	date and time of the creation	format: dd-mm-yyyy hh:mm:ss
	UseLeftovers	one of the components is an ink leftover	YES, NO
	Quantity	total amount of ink (in grams)	
	AddInkQuantity Factor	$\dfrac{\text{quantity of correction recipe}}{\text{quantity of basic recipe}}$ (only for correction recipes)	0...1
	IFT	ink film thickness	
	WeightPerArea	ink quantity in grams per m^2	
	Error	status of batching process	None, No basic recipe, Not enough ink, Can too small
Assortment			
	ID	name	
	Info	additional information	
Component		begin of a Component	Component1...n
	ID	name	
	Info	additional information	
	Part	$\dfrac{\text{quantity of the component}}{\text{quantity of recipe}}$ (the sum of all components is 1)	0...1
MeasValue		physical data of the measuring value	
	M_Cond	measuring condition. filter: white reference:	Pol, No, D65 Abs
	Remission	spectral data (36 values)	0...1
ActRecipe		physical data of the actual recipe	
	M_Cond	measuring condition. filter: white reference:	Pol, No, D65 Abs
	Remission	spectral data (36 values)	0...1
FillingLevel		begin of a filling level entry	
	ProtocolVersion	version of the protocol for this entry	2
	Date	date and time of the creation	format: dd-mm-yyyy hh:mm:ss
	Quantity	total amount of ink (in grams)	
Component		begin of a Component	Component1...n
	ID	name	
	Info	additional information	
	Quantity	amount of ink (in grams)	

Remarks

- Floating point numbers always use the decimal separator '.'