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**NEDERLANDS PROEFSTATION VOOR STROVERWERKING
TE GRONINGEN**

SOME BEATING PROPERTIES OF THE P.F.I.-MILL AS COMPARED WITH A MODIFIED JOKRO-
MILL, BY THE HELP OF A STRAW CELLULOSE.

door
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Results.

- I. Concerning differences in testing methods between Bestum and Groningen:
 - a) (Graphs I and III) The breaking lengths determined at Groningen are about 10% higher than the figures from Bestum, whereas
 - b) (Graphs II and IV) the folding numbers are much lower.
Probably this is due to a lower drying temperature possible used at Bestum.
- II. Concerning the differences in strength properties between P.F.I.-beater sheets and Jokro-beater sheets.
 - a) (Graph III) Breaking length.
The Jokro figures are higher than the P.F.I.-mill ones.
 - b) (Graph IV) Folding number.
The Jokro figures are somewhat higher.
 - c) Bursting strength.
The Jokro-figures are in accordance with the breaking lengths, also somewhat higher.
 - d) (Graph V) Tearing strength.
The highest difference between Jokro-mill and P.F.I.-mill is found by the investigation at Bestum. Groningen gives figures by which the Jokro ones lie between those of the loadings one and six kg of the P.F.I.-mill.

Conclusion.

With regard to the development of the rye straw fibre properties, perhaps the suitability of the P.F.I.-mill is somewhat larger than that of the Jokro-mill. Yet the higher tear (with 1 kg loading) is bought by a slight decrease of the folding number.

In consequence of the higher breaking- and bursting strength, it is probably, that with a milder treatment, i.e. a lower revolution number or a higher consistency (10%), the Jokro-mill will give figures of the same magnitude as those of the P.F.I.-mill.

The advantage of the P.F.I.-mill is primarily the short beating time. However, with the limited capacity of the apparatuses for the succeeding operations i.e. sheet forming, couching, pressing, drying and testing, this is in our case not telling to full advantage.

GRONINGEN, Januari 1949.

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Pulp beaten in Germany - Sheets formed in Germany - Sheets dried in Germany

Beating apparatus	Beating time in minutes	Beating length	Rolling sheets	Tea in g/ton	Quantity in kg/m ²	Spec. Grav	Drainage time in seconds
Johns Mill	5	1100	150	54	5.0	0.62	4
	10	1400	150	51	5.5	0.69	4
	15	1600	170	50	5.4	0.71	4

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Pulp beaten in De. - Sheets formed and tested in Basium

Apparatus	Beating time	Beating length	Rolling sheets	Tea in g/ton	Burst factor	S.G.	Drain time in sec.
Johns Mill	5	1100	150	49	49	0.73	25
	10	1400	150	33	51	0.74	25
	15	1700	150	50	51	0.81	20

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Pulp beaten in Basium - Sheets formed in Basium - tested in Germany

Apparatus	Beating time	Beating length	Rolling sheets	Tea in g/ton	Burst factor	S.G.	Drain time in sec.
Johns Mill	5	1200	150	52	49	0.77	25
	10	1600	180	44	48	0.71	some 25 sec. from 2 under
	15	1900	150	48	48	0.81	25

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Figures from sheets made from Stannell's base by working with the P.F.F. mill. Rejected material in Boston and Grovington.

Plant	Run time minutes	Grass Shovel	Rolling	Temp factor	Grass factor	Sp. out	Drum time in seconds	Notes
DEJ	47	4050	215	47	47	0.45	47	Boston DJ
mill	115	8550	1000	47	50	0.47	47	Boston DJ
sub-lets	2	9115	1275	50	53	0.49	47	Boston DJ

Plant	Run time minutes	Grass Shovel	Rolling	Temp factor	Grass factor	Sp. out	Drum time in seconds	Notes
DEJ	47	1500	440	53	not	0.47	47	Figures from DJ Grovington DJE
mill	115	1100	517	47	not	0.49	47	Grovington DJE
sub-lets	2	1100	447	47	not	0.49	47	Grovington DJE

Plant	Run time minutes	Grass Shovel	Rolling	Temp factor	Grass factor	Sp. out	Drum time in seconds	Notes
DEJ	47	1000	455	47	47	0.45	47	Boston EJ
mill	115	8415	615	47	51	0.46	47	Boston EJ
sub-lets	2	8550	1335	47	54	0.49	47	Boston EJ

Plant	Run time minutes	Grass Shovel	Rolling	Temp factor	Grass factor	Sp. out	Drum time in seconds	Notes
DEJ	47	9000	177	47	not	0.46	47	Figures from EJ Grovington EJ
mill	115	1300	161	47	not	0.47	47	Grovington EJ
sub-lets	2	1300	161	47	not	0.47	47	Grovington EJ

Consumable on the figures marked B-D and E1 also C-D and E1 with the figures in grid in figures are dropped.

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