

Supplementary material

Values corresponding to the Figure 13 (a): Gallling Severity Index (GSI) values of the Ra0.2-Die for all the sheet surfaces

	2MPa	3MPa	5MPa	10MPa	15MPa
Non Textured	-0.091±0.041	-0.078±0.016	0.954±0.190	2.830±0.21	4.077±0.628
Low Textured	-0.050±0.023	-0.019±0.011	0.064±0.128	2.228±1.374	5.263±2.040
Medium Textured	0.028±0.038	-0.048±0.024	0.303±0.091	1.906±0.486	1.810±0.684
High Textured	-0.006±0.009	-0.065±0.056	-0.101±0.059	1.441±0.358	2.456±0.711

Values corresponding to the Figure 13 (b): Gallling Severity Index (GSI) values of the Ra0.4-Die for all the sheet surfaces

	2MPa	3MPa	5MPa	10MPa	15MPa
Non Textured	-0.084±0.050	-0.020±0.104	0.389±0.090	2.030±0.847	1.655±0.783
Low Textured	0.049±0.034	0.139±0.002	-0.003±0.052	-0.036±0.079	-0.024±0.252
Medium Textured	0.067±0.045	0.003±0.045	-0.003±0.054	-0.030±0.017	-0.090±0.065
High Textured	-0.024±0.037	-0.04±0.094	0.156±0.143	0.05±0.23	-0.147±0.120

Values corresponding to the Figure 16 (a): Coefficient of friction values of the Ra0.2-Die for all the sheet surfaces

	2MPa	3MPa	5MPa	10MPa	15MPa
Non Textured	0.159±0.0076	0.167±0.002	Galling	Galling	Galling
Low Textured	0.125±0.007	0.111±0.003	0.110±0.004	Galling	Galling
Medium Textured	0.172±0.001	0.152±0.002	0.135±0.005	Galling	Galling
High Textured	0.157±0.007	0.136±0.003	0.123±0.001	Galling	Galling

Values corresponding to the Figure 16 (b): Coefficient of friction values of the Ra0.4-Die for all the sheet surfaces

	2MPa	3MPa	5MPa	10MPa	15MPa
Non Textured	0.181±0.001	0.174±0.001	Galling	Galling	Galling
Low Textured	0.175±0.002	0.162±0.004	0.148±0.007	0.126±0.001	0.107±0.002
Medium Textured	0.164±0.002	0.151±0.001	0.151±0.002	0.114±0.003	0.104±0.004
High Textured	0.159±0.001	0.145±0.003	0.130±0.001	0.111±0.002	0.09±0.006

Values corresponding to the Figure 17: Averaged maximum drawing force for the different roughness samples.

	Non textured	Low textured	Medium textured	High textured
Averaged [kN]	18.654±0.285	18.823±0.301	18.299±0.262	16.825±0.191

Values corresponding to the Figure 18: Averaged thickness and thickness deviation on the cup perimeter. The material had an original thickness of 1 mm.

	Non textured	Low textured	Medium textured	High textured
Averaged [kN]	0.598±0.071	0.658±0.062	0.728±0.081	0.796±0.074