

Recommended Treatment Levels

The following chart offers general guidelines regarding the required surface treatment levels (as measured by the dyne test) for various process/material combinations. Please note it is critical that the appropriate specification is determined for each job, based on actual empirical results from functional finished product testing. The ranges shown here can be used to expedite surface analysis by suggesting a reasonable range within which to test. Blind reliance on this data will probably reduce your quality costs short term and ensure a large discrepant goods writeoff at some uncertain future date.

All data in dynes/cm (equivalent to mJ/m²)

		Printing Processes												Other Processes					
Process:		Flexo and Gravure			Litho			Offset/ Letterpress			Screen and Pad			Laminating ⁽⁶⁾			Coating		
Coating Type:		Water	Solvent	UV	Water	Solvent	UV	Water	Solvent	UV	Water	Solvent	UV	Water	Solvent	UV	Water	Solvent	UV
Substrate	PE ⁽²⁾	38 44	36 40	38 50	40 46	37 42	40 50	40 46	37 42	42 54	42 48	38 44	44 60	42 50	38 44	42 54	42 48	38 45	44 54
	PP ⁽³⁾	38 44	36 40	40 50	40 46	38 42	40 50	40 46	37 42	40 54	42 48	38 44	44 60	42 50	38 44	42 54	42 48	38 45	44 54
	PVC ⁽⁴⁾	38 44	36 40	36 50	40 45	37 42	36 52	40 45	38 42	40 52	42 48	38 44	42 60	42 50	38 44	42 54	40 48	38 45	42 54
	PET ⁽⁵⁾	44 52	40 46	42 54	46 56	42 46	44 56	46 56	42 46	46 60	48 60	42 48	44 62	46 60	42 48	44 62	42 52	42 48	46 60
	PS	38 44	35 40	42 48	40 45	37 42	42 50	40 46	38 44	42 58	42 48	38 44	42 56	42 52	37 44	42 54	42 50	38 46	44 54
	PVDC	40 46	38 42	42 52	42 46	40 42	42 52	42 48	38 44	42 54	42 50	40 45	42 58	42 50	38 44	44 52	42 48	40 46	44 54
	PU	40 46	38 42	38 50	40 46	38 42	38 52	40 45	38 44	42 56	42 50	38 44	42 58	42 50	38 44	42 56	42 48	38 46	44 54
	ABS	42 46	40 44	40 52	42 46	40 45	42 52	42 48	38 46	45 52	42 48	40 45	46 56	42 52	40 45	42 56	42 48	38 46	44 54
	PTFE	40 44	34 39	36 52	40 45	35 40	38 52	40 48	38 44	42 60	42 52	38 46	42 60	42 56	38 46	42 56	42 50	40 48	42 54
	Silicone	40 44	35 40	40 50	40 45	38 42	38 52	40 48	38 44	40 56	42 50	38 46	42 60	42 56	38 46	42 56	42 50	40 48	42 54

In most cases, jobs can be run if the substrate – at run-time – is somewhere between the low and high dyne levels cited. For demanding runs (e.g., high web speeds and/or critical quality process work), it is safest to shoot for the top of the range. Use this chart as a general guideline only: each operation has slightly different requirements. These data are for flame or corona treatment in an oxygen-containing atmosphere.

NOTES:

- (1) Some values theoretical.
- (2) Any density, any type, including films, coated board, and molded products.
- (3) All types; cast or molded.
- (4) More plasticizer generally requires levels at the high end of these ranges.
- (5) Uncoated.