

Comparison of British Standard and DUROpal properties for high pressure laminates (HPL)



CLASS OF HPL TYPE OF HPL			British Standard BS 3794 of 1986 Horizontal General Purpose Applications (HG)			DUROpal Test Results 0.8 mm		British Standards BS 3794 of 1986 Vertical, General Purpose (VG)		DUROpal Test Results 0.5 mm	
			Standard grade (HGS)	Postforming grade (HGP)	Fire-retardant (HGF)	Standard, Postforming and Fire-retardant grades		Standard grade (VGS)	Postforming grade (VGP)	Standard & Postforming grades	
TEST	Property, attribute or further definition	Units (max. min.) Surface Texture	Any Surface Finish			DUROpal High Gloss (HG) Matt (SM), Karat (KT) Top Velvet (TV), Perfect Finish (PF)	All other Surface finishes in the DUROpal Collection	Any Surface Finish		DUROpal Matt (SM), Karat (KT) Top Velvet (TV), Perfect Finish (PF)	All other Surface Finishes in the DUROpal Collection
Resistance to surface wear (abrasion)	plain colours	revolutions, min.	350			≥ 650		250		≥ 650	
	decors, wood repros					≥ 400 ⊕				≥ 400 ⊕	
Resistance to dry heat (hot pot test)	Glossy Finish	appearance not worse than	E			E	no visible change	E		E	no visible change
	All other surface finishes		F			F		F		F	
Resistance to scratching	load	N min.	2.0			2.0 – 4.5 ϕ	4.0 – 8.5 ϕ	1.75		2.0 – 4.5 ϕ	4.0 – 8.5 ϕ
Resistance to stains and chemical attack	less aggressive substances (1)	appearance not worse than	no visible change			no visible change		no visible change		no visible change	
	more aggressive substances (2)		F	E	F	F	no visible change	F	E	F (VGS), E (VGP)	no visible change
Resistance to cigarette burns		appearance not worse than	G			G	no visible change	X		G	no visible change
Dimensional stability *	dimensional change at elevated temperatures	max. length max. width	0.60 1.15			≤ 0.45 ≤ 0.90		0.75 1.30		≤ 0.60 ≤ 1.10	
	dimensional change at 20° C	max. length max. width	0.40 0.65			≤ 0.30 ≤ 0.50		0.50 0.80		≤ 0.40 ≤ 0.60	
Resistance to immersion in boiling water *	increase in mass increase in thickness	% max. % max.	11 14	18 20	14 17	10/15 M #		15 18	23 25	10/15 M #	
Resistance to impact by small diameter ball	spring force	N min.	25	20	25	HGS + HGF ≥ 25 HGP ≥ 20		20	15	VGS ≥ 20 VGP ≥ 15	
Resistance to cracking at elevated temperatures	appearance under 6x magnification	maximum permitted	Hairline cracks only, irregularly distributed			Hairline cracks only, irregularly distributed		Hairline cracks only, irregularly distributed		Hairline cracks only, irregularly distributed	
Resistance to colour change under xenon arc light	blue wool standard (BS 2782 : 540 B)	min.	6			≥ 6		6		≥ 6	
Resistance to steam		appearance not worse than	F	E	F	no change §		F	E	no change §	
Formability (postforming grade only)	radius	max. mm	X	15	X	≤ 8		X	10	≤ 5	
Resistance to blistering		min. in seconds	X	15	X	≥ 15		X	10	≥ 10	
Reaction to fire			X	X	Q	Fire retardant grade : Q Standard and Postforming grade : R		X		X	

⊕ With the exception of a number of decors intended mainly for vertical applications. Full details available on request.

Fire-retardant & Standard grades 10; Postforming grade 15
• The requirements given refer to the corresponding DUROpal thickness of 0.8 and 0.5 mm.

⊖ Individual results depend upon the combination of surface finish, colour and decor.

§ Exemption: High Gloss (HG) in combination with Postforming grade = F.

(1) Less aggressive substances (eg. coffee, tea, vinegar, lemon and other fruit juices, red wine and other alcohols, organic solvents etc.)

(2) More aggressive substances (eg. household bleaching agents and sanitary cleaners, acid-based metal cleaners, aminosulfonic descaling agents and acids in combination with heat).

E Moderate change of gloss and/or colour.

F A slight change of gloss and/or colour, only visible at certain viewing angles.

G Moderate change of gloss and/or colour and moderate brown stain.

N Newton (unit of measurement).

Q Material shall meet requirements for Class 1 of BS 476: part 7 (Surface Spread of Flame) when bonded with a thermostating adhesive to a wood-based substrate meeting the same requirement.

R Class 2 to BS 476 Part 7 (Surface Spread of Flame). Both the DUROpal standard grade and the DUROpal postforming grade in 0.8 mm conform to British Standard B.S. 476: Part 6 - Fire Propagation: Class 0, Part 7 - Surface Spread of Flame: Class: 1 when tests are carried out on a cement-based non-combustible substrate. Copies of certificates and further information available on request.