

## Test Specification of Compact Laminate Sheets Type-S, CGS

**IS 2046 : 1995**

<b>Thickness : 2.50 mm</b>				
<b>S. No.</b>	<b>Test Description</b>	<b>Unit</b>	<b>Standard Value</b>	<b>ASIS Value</b>
1	Colour & Pattern		free form defect	Complies
2	Reverse side bonding		as per suitability	Complies
3	Edge, defects (nominal length & width)	mm	-20	Complies
	(a) Broken Corners	≤30 mm ≤15 mm	One broken corner two broken corner	Complies
	(b) Sanding Defects		Slight chatter marks allowed	Complies
4	Surface Finish		free form defect	Complies
5	Surface Defects		free form defect	Complies
	(a) Spot, dirt & similar surface defects (max.)	mm <sup>2</sup> /m <sup>2</sup>	1.0	Complies
	(b) Fibre, hair, scratches (max.)	mm <sup>2</sup> /m <sup>2</sup>	10.0	Complies
	(c) Accumulated of surface defects (max.)	mm <sup>2</sup> /m <sup>2</sup>	10.0	2.0
6	Warping Flatness $2.0 \leq t < 5.0$ (max.)	mm	50	20.0
7	Thickness $2.5 \pm 0.18$ (max.)	mm	0.18	0.10
8	Straightness of Edges	mm/mtr	1.5	1.05
9	Square ness of laminates	mm/mtr	1.5	0.80
10	Size of Sheets			
	(a) Length & Width (2440 x 1220)	mm	+ 10, -0	2441 & 1221
11	Resistance of surface Wear			
	(a) Initial Point (revolution)	≥	150	175
	(b) Initial + final point)/2 (revolution)	≤	350	375
12	Resistance to Immersion in boiling water			
	(a) Thickness increase-max (max.)	%	4.40	2.8
	(b) Mass increase-max (max.)	%	4.20	2.0
	(c) Appearance (grade) (Not worse than)		Gr. 4	Gr. 4

13	Resistance at dry heat at 180°C (Not worse than)		Gr. 4	Gr. 4
14	Dimensional Stability at Deviated temp. (max.)	%	MD-0.30, CD-0.65	0.17, 0.33
15	Dimensional Stability at 20°C (max.)	%	MD-0.20, CD-0.32	0.13, 0.18
16	Resistance to Impact by large Diameter Ball above t 5.0 (max.)	mm	N.A.	N.A.
17	Resistance to Crazing (thick laminates) (Not worse than)		Gr. 4	Gr. 4
18	Resistance to scratching N (min.)		2.0	2.5
19	Resistance to staining			
	(a) Group 1 & 2 (not worse than)		Gr. 5	Gr. 5
	(b) Group 3 & 4 (not worse than)		Gr. 4	Gr. 4
20	Resistance to Cigarette Burn (not worse than)		Gr. 3	Gr. 4
21	(a) Flexural Modulus (min.)		10000	10200
	(b) Flexural Strength (min.)		100	110
22	Tensile Strength		70.0	80
23	Resistance to Colour change in xenon arc light (wool standard min.)	>	6	6
24	Resistance to Colour change in enclosed carbon arc light (wool standard min.)	>	5	5
25	Resistance to Steam (Not worse than)		Gr. 4	Gr. 4
26	Resistance to Moisture (Double faced compact laminates) (Not worse than)		Gr. 4	Gr. 4

**Test Specification of Compact Laminate Sheets Type-S, CGS**  
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<b>Thickness : 3.0 mm</b>				
<b>S. No.</b>	<b>Test Description</b>	<b>Unit</b>	<b>Standard Value</b>	<b>ASIS Value</b>
1	Colour & Pattern		free form defect	Complies
2	Reverse side bonding		as per suitability	Complies
3	Edge, defects (nominal length & width)	mm	-20	Complies
	(a) Broken Corners	≤30 mm ≤15 mm	One broken corner two broken corner	Complies
	(b) Sanding Defects		Slight chatter marks allowed	Complies
4	Surface Finish		free form defect	Complies
5	Surface Defects		free form defect	Complies
	(a) Spot, dirt & similar surface defects (max.)	mm <sup>2</sup> /m <sup>2</sup>	1.0	Complies
	(b) Fibre, hair, scratches (max.)	mm <sup>2</sup> /m <sup>2</sup>	10.0	Complies
	(c) Accumulated of surface defects (max.)	mm <sup>2</sup> /m <sup>2</sup>	10.0	4.0
6	Warping Flatness 2.0 ≤ t <5.0 (max.)	mm	50	30.0
7	Thickness 2.5 ± 0.18 (max.)	mm	0.20	0.12
8	Straightness of Edges	mm/mtr	1.5	0.90
9	Square ness of laminates	mm/mtr	1.5	0.90
10	Size of Sheets			
	(a) Length & Width (2440 x 1220)	mm	+ 10, -0	2442 & 1222
11	Resistance of surface Wear			
	(a) Initial Point (revolution)	≥	150	175
	(b) Initial + final point)/2 (revolution)	≤	350	375
12	Resistance to Immersion in boiling water			
	(a) Thickness increase-max (max.)	%	4.0	2.0
	(b) Mass increase-max (max.)	%	3.8	2.0
	(c) Appearance (grade) (Not worse than)		Gr. 4	Gr. 4
13	Resistance at dry heat at 180°C (Not worse than)		Gr. 4	Gr. 4

14	Dimensional Stability at Deviated temp. (max.)	%	MD-0.30, CD-0.65	0.16, 0.32
15	Dimensional Stability at 20°C (max.)	%	MD-0.20, CD-0.32	0.12, 0.17
16	Resistance to Impact by large Diameter Ball above t 5.0 (max.)	mm	N.A.	N.A.
17	Resistance to Crazing (thick laminates) (Not worse than)		Gr. 4	Gr. 4
18	Resistance to scratching N (min.)		2.0	2.5
19	Resistance to staining			
	(a) Group 1 & 2 (not worse than)		Gr. 5	Gr. 5
	(b) Group 3 & 4 (not worse than)		Gr. 4	Gr. 4
20	Resistance to Cigarette Burn (not worse than)		Gr. 3	Gr. 4
21	(a) Flexural Modulus (min.)		10000	10400
	(b) Flexural Strength (min.)		100	120
22	Tensile Strength		70.0	100
23	Resistance to Colour change in xenon arc light (wool standard min.)	>	6	6
24	Resistance to Colour change in enclosed carbon arc light (wool standard min.)	>	5	5
25	Resistance to Steam (Not worse than)		Gr. 4	Gr. 4
26	Resistance to Moisture (Double faced compact laminates) (Not worse than)		Gr. 4	Gr. 4

**Test Specification of Compact Laminate Sheets Type-S, CGS**  
**IS 2046 : 1995**

**Thickness : 4.0 mm**

S. No.	Test Description	Unit	Standard Value	ASIS Value
1	Colour & Pattern		free form defect	Complies
2	Reverse side bonding		as per suitability	Complies
3	Edge, defects (nominal length & width)	mm	-20	Complies
	(a) Broken Corners	≤30 mm ≤15 mm	One broken corner two broken corner	Complies
	(b) Sanding Defects		Slight chatter marks allowed	Complies
4	Surface Finish		free form defect	Complies
5	Surface Defects		free form defect	Complies
	(a) Spot, dirt & similar surface defects (max.)	mm <sup>2</sup> /m <sup>2</sup>	1.0	Complies
	(b) Fibre, hair, scratches (max.)	mm <sup>2</sup> /m <sup>2</sup>	10.0	Complies
	(c) Accumulated of surface defects (max.)	mm <sup>2</sup> /m <sup>2</sup>	10.0	5.0
6	Warping Flatness $2.0 \leq t < 5.0$ (max.)	mm	50	20
7	Thickness $2.5 \pm 0.18$ (max.)	mm	$\pm 0.25$	0.10
8	Straightness of Edges	mm/mtr	1.5	1.03
9	Square ness of laminates	mm/mtr	1.5	1.05
10	Size of Sheets			
	(a) Length & Width (2440 x 1220)	mm	+ 10, -0	2443 & 1222
11	Resistance of surface Wear			
	(a) Initial Point (revolution)	≥	150	175
	(b) Initial + final point)/2 (revolution)	≤	350	375
12	Resistance to Immersion in boiling water			
	(a) Thickness increase-max (max.)	%	3.0	2.0
	(b) Mass increase-max (max.)	%	2.8	1.5
	(c) Appearance (grade) (Not worse than)		Gr. 4	Gr. 4

13	Resistance at dry heat at 180°C (Not worse than)		Gr. 4	Gr. 4
14	Dimensional Stability at Deviated temp. (max.)	%	MD-0.25, CD-0.58	0.15, 0.30
15	Dimensional Stability at 20°C (max.)	%	MD-0.175, CD-0.25	0.10, 0.14
16	Resistance to Impact by large Diameter Ball above t 5.0 (max.)	mm	N.A.	N.A.
17	Resistance to Crazing (thick laminates) (Not worse than)		Gr. 4	Gr. 4
18	Resistance to scratching N (min.)		2.0	3.00
19	Resistance to staining			
	(a) Group 1 & 2 (not worse than)		Gr. 5	Gr. 5
	(b) Group 3 & 4 (not worse than)		Gr. 4	Gr. 4
20	Resistance to Cigarette Burn (not worse than)		Gr. 3	Gr. 4
21	(a) Flexural Modulus (min.)		10000	10500
	(b) Flexural Strength (min.)		100	130
22	Tensile Strength		70.0	100
23	Resistance to Colour change in xenon arc light (wool standard min.)	>	6	6
24	Resistance to Colour change in enclosed carbon arc light (wool standard min.)	>	5	5
25	Resistance to Steam (Not worse than)		Gr. 4	Gr. 4
26	Resistance to Moisture (Double faced compact laminates) (Not worse than)		Gr. 4	Gr. 4

## Test Specification of Compact Laminate Sheets Type-S, CGS

**IS 2046 : 1995**

**Thickness : 5.0 mm**

S. No.	Test Description	Unit	Standard Value	ASIS Value
1	Colour & Pattern		free form defect	Complies
2	Reverse side bonding		as per suitability	Complies
3	Edge, defects (nominal length & width)	mm	-20	Complies
	(a) Broken Corners	≤30 mm ≤15 mm	One broken corner two broken corner	Complies
	(b) Sanding Defects		Slight chatter marks allowed	Complies
4	Surface Finish		free form defect	Complies
5	Surface Defects		free form defect	Complies
	(a) Spot, dirt & similar surface defects (max.)	mm <sup>2</sup> /m <sup>2</sup>	1.0	Complies
	(b) Fibre, hair, scratches (max.)	mm <sup>2</sup> /m <sup>2</sup>	10.0	Complies
	(c) Accumulated of surface defects (max.)	mm <sup>2</sup> /m <sup>2</sup>	10.0	As Agreed
6	Warping Flatness $2.0 \leq t < 5.0$ (max.)	mm	50.0	10.0
7	Thickness $2.5 \pm 0.18$ (max.)	mm	$\pm 0.30$	0.15
8	Straightness of Edges	mm/mtr	1.5	0.8
9	Square ness of laminates	mm/mtr	1.5	0.7
10	Size of Sheets			
	(a) Length & Width (2440 x 1220)	mm	+ 10, -0	2443 & 1222
11	Resistance of surface Wear			
	(a) Initial Point (revolution)	≥	150	175
	(b) Initial + final point)/2 (revolution)	≤	350	375

12	Resistance to Immersion in boiling water			
	(a) Thickness increase-max (max.)	%	2.50	1.20
	(b) Mass increase-max (max.)	%	2.25	1.00
	(c) Appearance (grade) (Not worse than)		Gr. 4	Gr. 4
13	Resistance at dry heat at 180°C (Not worse than)		Gr. 4	Gr. 4
14	Dimensional Stability at Deviated temp. (max.)	%	MD-0.25, CD-0.55	0.13, 0.28
15	Dimensional Stability at 20°C (max.)	%	MD-0.17, CD-0.24	0.09, 0.13
16	Resistance to Impact by large Diameter Ball above t 5.0 (max.)	mm	N.A.	N.A.
17	Resistance to Crazing (thick laminates) (Not worse than)		Gr. 4	Gr. 4
18	Resistance to scratching N (min.)		2.0	3.50
19	Resistance to staining			
	(a) Group 1 & 2 (not worse than)		Gr. 5	Gr. 5
	(b) Group 3 & 4 (not worse than)		Gr. 4	Gr. 4
20	Resistance to Cigarette Burn (not worse than)		Gr. 3	Gr. 4
21	(a) Flexural Modulus (min.)		10000	10600
22	(b) Flexural Strength (min.)		100	140
23	Tensile Strength		70.0	110
24	Resistance to Colour change in xenon arc light (wool standard min.)	>	6	6
	Resistance to Colour change in enclosed carbon arc light (wool standard min.)	>	5	5
25	Resistance to Steam (Not worse than)		Gr. 4	Gr. 4
26	Resistance to Moisture (Double faced compact laminates) (Not worse than)		Gr. 4	Gr. 4