



3D SCREEN SURFACES

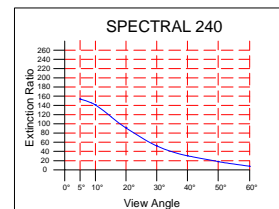
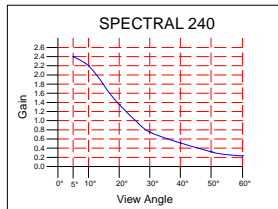
Choose Harkness screens for the best 3D presentation

The screen is one of the least costly parts of the overall investment in the cinema fit-out, but it can have major impact on the viewing experience. Don't compromise - fit Harkness 3D screens, the most widely used surfaces in cinema and special venue 3D presentations.

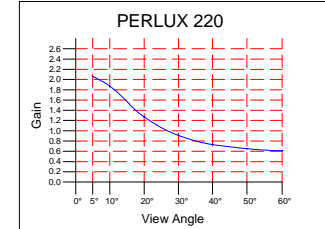
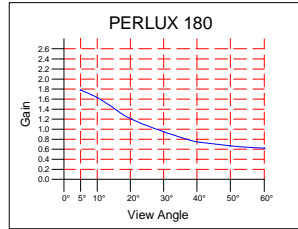
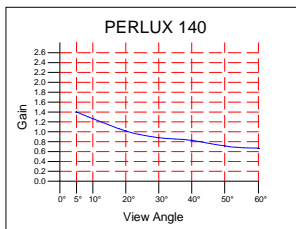
All Harkness 3D screen surfaces are formulated to give high performance stereoscopic 3D images. Surfaces are available for both 'passive' and 'active' 3D projection, using either single or dual projector solutions, film or digital. Surfaces are also available for rear projection 3D.

Types of screen and application

Spectral™ 240 is used for 'passive' front projection with 3D systems using polarised light. The extinction ratio is high and provides spectacular 3D images. The surface also supports 2D images and so can be used successfully in applications where 2D and 3D are both shown. The intrinsically high gain (2.4) overcomes light losses in 3D systems. Seams are invisible under projection conditions.



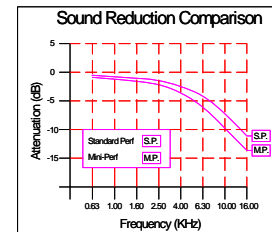
Perlurx® surfaces are recommended for 'active' (shutter eyewear) 3D systems and 'passive' systems not using polarised light. 3 levels of gain are available for different screen sizes to overcome inherent light losses in 3D projection. All Perlurx screens give excellent images with 2D projection. Seams are invisible under projection conditions.



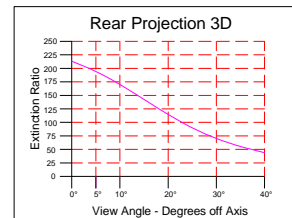
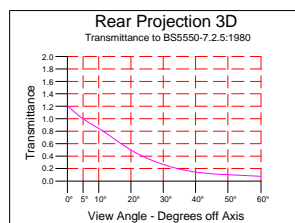
Acoustic performance / screen perforations

Perforated forms of all front projection 3D screens are available to enable speaker placement behind the screen. For viewing distances of 5m (15ft) or more standard perf is normally used. For shorter distances mini-perf (MP) is recommended.

Perforated Form	Hole Size	Open Area
Standard Perf	1.2mm (0.047")	4.5%
Mini-Perf	0.5mm (0.020")	1.7%



RP 3D is specially formulated for 'passive' 3D in applications where rear projection is required. Seams are invisible under projection conditions.



Edge finishing

Different edge finishing options are available to suit different applications

- Web and eye - grommet spacing 150mm
- Triple fold web
- Pockets (to take tube)
- Press studs (snaps)
- Dual Lock™
- Cut square (unfinished edges)

Shaped surfaces are also available.

Frames

Harkness Screens can supply frames for use with Harkness screen surfaces

- Wrap-round (floating) frames
- Smart-View decorative frame systems
- Lace-in frames, together with cloth masking
- Snap frames (with press studs)
- Easi-Rect foldable frame systems

Despatch/Storage

Screens should normally be transported and stored at temperatures between 5°C and 30°C (40°F and 85°F), with relative humidity less than 80%. If screens are very cold, e.g. following air transport, then they must be allowed to warm up before unpacking otherwise cold cracking may occur. Packaging must be protected from mechanical damage at all times.

Data	USA Manufacture (max)		Europe Manufacture (max)		Packing Method	Weight (Kg/m ²)
	(m)	(ft)	(m)	(ft)		
Spectral 240	24.1 x 12.4	79' 3" x 40' 7"	26.5 x 11	87' x 36'	Rolled	0.50
Perlux 140/180	23.5 x 11.8	77' 3" x 38' 11"	Not available		Folded	0.43
Perlux 140+/180+/220+	24.1 x 12.4	79' 3" x 40' 7"	26.5 x 11	87' x 36'	Rolled	0.50
RP 3D	30 x 20	98 x 65' 6"	30 x 20	98' x 65' 6"	Rolled	0.43

Packing Method

Folded screens: packed as a parcel up to 90m² (1000ft²); above this in a wooden crate.

Rolled screens: packed in a tube up to 7m (23ft) height; above this in a long wooden box.

Fire Certification

Harkness screens have fire certification complying with UK, US and International Standards.

Installation

The following principles should be followed when installing Harkness Screens Specialised Screen Surfaces:

- The auditorium should be clean with no building works taking place.
- Installation should be at ambient temperature (20/24°C - 68/74°F).
- Care should be taken to avoid the screen coming into contact with sharp objects during installation.
- Excessive loads should not be placed on any specific point of the screen.
- Use of cotton gloves is recommended.
- The viewing surface must not be touched.
- Particular care is necessary to install Spectral screens (installation guidelines available).

Care and Maintenance

The general environment where the screen is installed should be kept reasonably clean to avoid dirt and dust build-up.

Screens can be periodically brushed using a long handle soft brush, doing this vertically with limited pressure.

Localised stains can be treated with a proprietary screen cleaner.

HARKNESS 3D SCREEN SURFACES - from the world's largest supplier of projection screen

For full information regarding Harkness 3D Screen Surfaces and other products, please refer to Product Data Sheets available from our website (pdf format)



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