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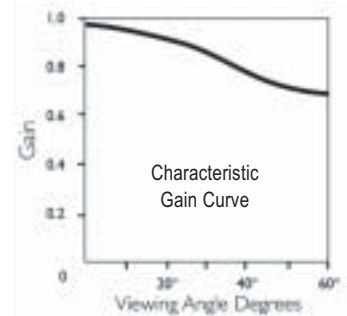
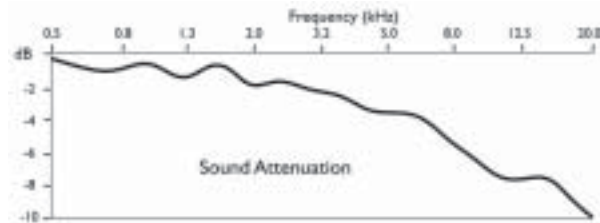
**PROJECTION SCREEN  
MATT PLUS  
PRODUCT DATA SHEET**

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Harkness Hall Matt Plus screens are considered by leading cinema exhibitors and special venue operators world-wide to be the 'premier' non-coated projection surface. The flexible PVC based material is manufactured to a unique Harkness Hall formulation and specification, providing wide viewing angle, high contrast, bright pictures and excellent colour temperature. The surface can be folded for ease of transportation, cinema access and installation. Noted for invisible seams under normal projection conditions.

**Application**

Matt Plus screens are recommended for use with flat and curved frames in lace-in or wrap-round (floating) frame formats. The surface is also suitable for roller screen applications. Available in full screen perforated form where behind screen speakers are required (see attenuation curve). Mini-perforated and non-perforated options also available.

**General Detail**

<b>View Distance</b>	Minimum of 5mtr (15') recommended on perforated surfaces
<b>Maximum Size</b>	Normal limit 30m x 20m (98' x 66')
<b>Perforation Size</b>	Ø1.2mm (0.047")
<b>Perforation Density</b>	5.3%
<b>Weight</b>	0.43kg/m <sup>2</sup> (0.09lb/ft <sup>2</sup> )
<b>Eyelet Spacing</b>	150mm (6") nominal

**Surface Edging**

- Web and eye (grommet). Triple fold web integral with surface
- Preformed pipe pocket any size on any side
- Cloth web and fixings (snaps) for press stud frames
- Straight sides or shaped to special order
- Cut square

**Fire Retardancy:** Certification to standards including:-

- UK BS5867 PT II (BS 3120);
- German DIN4102 B1;
- France M1;
- Portugal M2;
- Italy Class 1;
- Spain M1;
- Australia AS1530.2-93;
- USA / Canada ULc CAN 4 S102-2;
- Japan BT-08-050 (Regulation requires certification by importing company)
- Austria B3800

**Typical Packing**

Folded in parcel or parcel box up to 13m x 7m (43' x 23'). Wooden crate for larger sizes.

**Despatch / Storage**

This screen type can be folded for initial transport. Storage in such a form for periods over one month should be avoided, two months if tube packed. 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.

**Installation**

The following principles should be followed when installing Harkness Hall Matt Plus screen surfaces.

- The auditorium should be clean with no building works taking place.
- Installation should be at ambient temperature (20/24°C-68/75°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 should not be touched (the rear of the screen is identified by the product label).
- Creasing should be minimised during installation.

There are two principle methods to install the screen surface:

- Flying the screen by attaching several tie lines to the top of the screen, passing these over the top of the frame and using them to pull the screen into place.
- Unrolling the screen vertically across the front of the frame, if it is tube packed.

Using one of these methods, the screen surface is loosely attached to the top of the frame. After this, the top of the screen is fully attached to the top lacing bar by working from the centre outwards using each eyelet.

The lower edge of the screen should then be laced from the centre outwards, applying sufficient tension to pull the screen flat. Typically, the screen can be stretched up to 3% of its height at ambient temperature of 20/24°C-68/75°F using sisal cord lacing. Side lacing should be from the top down and sufficient to remove the flutes. Excessive side tension should be avoided, particularly on a curved frame, as it will result in straightening of the screen across the curve (belly).

Springs or elasticated ties should not be used to install Harkness Hall surfaces.

The above method can be used for both lace-in and for wrap-round frames. Normally, two people are sufficient to install a screen surface.

**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. Under no circumstances should the screens be made wet or cleaned with any material containing bleach or other chemicals.

'SCREEN CLEAN' is Harkness Hall's specially formulated cleaning compound which can be used to minimise the effect of some localised stains on the screens.

In the interest of product enhancement, Harkness Hall reserve the right to introduce modifications or alterations without notice.