

**THE NOTES FOR**

**MEDICAL GRADE FOOTWEAR**

 **SUPPLIERS**

**Technical Specifications of**

**Medical Grade Footwear**

**Objective**

DVA, through the Medical Grade Footwear (MGF) Program, accepts financial responsibility for the provision of appropriate footwear to eligible clients to support clinical treatment for deformity in gait, feet or lower limbs due to injury or medical condition. MGF can be supplied where a foot deformity or medical condition prevents the fitting of suitable stock or modified stock footwear. MGF must meet the prescribed clinical needs of the eligible client.

The following standards stipulate the physical and quality requirements of footwear that can be issued under the MGF Program. Footwear assessed as meeting DVA standards, and where the price is accepted by DVA, will be included as MGF for the purposes of the MGF Program.

**Ready-made depth/width footwear**

It is DVA’s expectation that the ready-made MGF comes in a wide range of styles, colours and features to meet the individual needs of eligible clients. The MGF should have extra depth to accommodate the feet and offer a pressure free fit available in a variety of widths to improve fit and protection.

DVA funded MGF should meet the following standards:

**Depth**

Ready-made footwear offered as depth should have:

1. a minimum of 6mm added evenly along the last; and
2. Inside back heights be a minimum of 67mm for size 7 women’s shoes; or
3. Inside back heights be a minimum 72mm for size 9 men’s shoes.

*Samples provided to DVA for assessment must be provided with removable innersole/s to a thickness of 6mm (excluding sandals).*

**Width**

Ready-made footwear that does not meet the depth requirement and is offered as width should have:

1. availability in at least three (3) width fittings; and
2. a minimum width sizing of a standard EE forefoot. (i.e., the Women’s Standard 7EE forefoot width is 89mm and Men’s Standard 9EE forefoot width is 99mm); and
3. inside back heights be a minimum of 60mm for size 7 women’s shoes or
4. inside back heights be a minimum 65mm for size 9 men’s shoes; and
5. a 2mm difference in back height between each size range.

A 2mm increase in the width of the tread area of the last, measured from the 1st to 5th metatarso-phalangeal joint position, between all sizes and fittings is preferred by DVA.

*Note: DVA may seek additional details from the manufacturer to support claims against the above width requirements, such as circumference and/or tread-width of the last used to manufacture the shoe. A supplier may also submit additional information that they believe may be relevant to the footwear’s classification as width footwear, such as the shoe’s bottom patterns or other measurements such as insole width.*

**Shoe Opening and Closures**

1. The design of the quarters and vamp opening should allow easy donning and doffing.
2. The shoe should be lace up, velcro or buckle closure and able to be easily modified in this respect (alternative closures ie. zippers may be considered if combined with lace up or velcro).

**Soles**

1. Soles must be of a high quality (durable), modifiable and repairable material.
2. Outsoles should be constructed having proper regard to relevant safety concerns e.g. non-slip surface.
3. The sole must be either wedge (rigid shank preferred) or stepped sole and heel (rigid shank must be provided).

**Material for Uppers**

1. Leather used should be soft and mellow in texture, and have a minimum thickness of 1.4mm.
2. Leather should be free from obvious blemishes or damage.
3. Synthetic material may be accepted, providing it is of good quality, not rigid or plasticised and the use of synthetics instead of leather for that particular shoe has demonstrable benefits for the wearer.

*Note: Pigskin and similar materials are not accepted for use as an upper.*

**Lining Materials**

1. Should be neutral coloured whether leather or non-leather materials are used.
2. Should be soft and mellow in texture with a minimum thickness 0.9mm.
3. Should be free from scars and marks and be uniform in colour, grain and appearance.

*Note: Variations of the upper and lining thickness may be acceptable where the overall thickness is a minimum of 2.3mm.*

**Heel Pitch**

1. Should be no more than 25mm, measured at the breast of the heel and taking into consideration any rise of a shoe’s platform in relation to the sole’s thickness.
2. Toe spring should be a minimum of 15mm.

**Toe Box**

1. Should have a minimum external height achievable of 25mm for women and 30mm for man (stretch vamp footwear may be except).
2. Should not be narrow in width (i.e. pointed or chiselled).
3. Should be retained by a good quality material for the toe puff.

**Heel Counters**

1. May be made of leather, pre-moulded leather board type, or heat moulded thermoplastic.
2. Should have sufficient stability, strength, height or length to support the needs of the footwear.

**Design and Function**

1. Should complement foot function during gait.
2. Should accommodate a range of foot types and shapes.

**Sandal Styles**

Should have:

1. two (2) adjustable front straps (vamp area).
2. one (1) adjustable instep strap.
3. a full back with appropriate heel counter.
4. a covered padded insole (full sock lining).

In ready-made depth/width sandals, the covered padded insole should be removable.

Note: Sling-back styles are not acceptable. Variations of design may be accepted if the shoe stability and adjustability remain a feature.

**Adhesives**

Adhesives used in the manufacture of ready-made MGF:

1. Should be of a type that adheres to the selected material.
2. Should remain flexible and effective for the life of the MGF.

**Footwear for people with diabetes**

Eligible clients with diabetes should be provided with footwear that fits, protects and accommodate the shape of their feet. This includes having adequate length, width and depth.

**Cost**

The proposed price of ready-made MGF may be negotiated prior to acceptance on the MGF Register. The price must represent value for money in terms of product quality,

availability and comparison with current MGF Register pricing.

**Exclusions**

Slippers and slip-on style shoes are generally not provided because the nature of their style/design do not meet MGF specifications.

**Custom made footwear**

Custom made footwear is MGF that is constructed specifically for one person using lasts and patterns made by the custom MGF supplier. All MGF produced for eligible client by a custom footwear manufacturer must meet the prescribed clinical needs of that person.

DVA funded custom made MGF should meet the following standards:

**Upper Leathers**

1. The natural leathers used may vary in types such as calf, kangaroo and full-grain hide. All natural leathers should be of high quality and be soft and mellow in texture.
2. Leather hides should have a minimum thickness of 1.4mm. Heavier leathers may be used with certain foot conditions, if prescribed for additional support and protection.
3. All leathers should be free from obvious scars, brands, grub marks and other blemishes, and shall be uniform in colour and grain appearance.

*Note: Pigskin, synthetic leather and similar materials will not be accepted leathers for an upper and should not be used.*

**Vamps**

1. The vamp should be cut from the best portion of the skin (prime).
2. The vamp when cut should be free from scars, brands, grub marks and other blemishes that will affect its appearance or wearing qualities.

**Upper Quarters**

1. Upper quarters should be cut adjacent to the vamps (where possible) or from an appropriate quality section of the skin.
2. The upper quarters when cut, should be free from obvious scars, brands, grub marks and other blemishes that will affect their appearance or wearing qualities.

**Back Straps – Tongues**

Back straps and tongues should be free of permanent wrinkles or creases, obvious scars, brands, or other blemishes that will affect their appearance or wearing qualities.

**Straps**

1. Overlay or fastening straps should be cut opposite the stretch, avoiding any stretching during their functional life.
2. Buckle straps should be cut corresponding to buckle size so that they function easily, when entering or exiting from buckles.

**Leather Top Line**

1. Beaded top line should be skived and beaded to a width of 5mm with the lining under-trimmed.
2. Bagged top line should have both materials skived, stitched at least 4mm from edge and turned.
3. All leather bindings should be split to a substance of not less than 0.5mm, and during attachment, carry a reinforcement tape of not less than 3.0mm in width.

**Lining Materials**

1. The lining materials required are entirely natural neutral coloured leather, where other non-leather materials are used neutral colours are still required.

*Note: A lining other than leather may be acceptable, however if use of a non-leather lining issued, details of its technical specifications and properties must be made available upon request.*

1. The leathers used in the production of linings may vary. Such leathers as hide, pigskin and calf will be acceptable. All leathers regardless of type should be of a soft, mellow texture with a minimum thickness of 0.9mm.
2. All leathers used in linings should be free from obvious scars, brands and grub marks and be uniform in colour and grain appearance.
3. The vamp lining should be cut from an appropriate area of the material selected.
4. The vamp lining should be free from any blemishes that will affect its appearance or wearing qualities.
5. The quarter lining should be cut adjacent to the vamp lining where possible, and shall be free from any obvious blemishes, that will affect its appearance or wearing qualities.
6. It is preferred that quarter linings contain a heel grip with a minimum thickness of 0.9mm.
7. A heel grip may be of the split-leather type and should be free from any obvious blemishes that will affect its appearance or wearing qualities.
8. The sock lining should be a three-quarter plain sock covering the insole, the sock should be cut from the same leather as the upper linings, be free from any obvious blemishes and be of uniform colour.
9. The sock lining should carry the manufacturer’s or supplier’s brand or label.

**Components for custom, modifications and repairs**

The components used in the manufacture of MGF may vary according to the foot ailment to be treated, component supplies, manufacturing process and prescription indicators. Components used in the manufacture, supply, repair or modification of MGF for eligible clients should conform to the following:

**Insole**

1. Should be of suitable material (e.g. Leather, Texon or Copex).
2. Should be of suitable density and be between 2.5mm and 3.0mm thick.

**Outsoles**

1. All outsoles should be constructed having proper regard to relevant safety concerns, and should have a non-slip surface.
2. All leather outsoles should be cut from prime butt leather, possess a tight fibre structure, and be free of blemishes such as scars or brands that would affect the appearance and quality, of the MGF.
3. Leather soles should have a minimum thickness of 4mm for women and 6mm for men.
4. Synthetic - microcell rubber wedge units, EVA wedge and sole units, EVA soles and others should be of a medium density, with a substance of approximately 8.0mm in the sole forepart, supporting a compatible heel height.
5. Synthetic soles where applicable in their structure should contain a sole pattern (tread) that has non slip properties.
6. Synthetic outsoles should also provide some shock absorption to the wearer.

*Note: Depending on the foot ailment and condition of the feet, external footwear corrective devices may need to be made of harder material density*

**Padded Innersole**

An additional removable full-padded innersole with a thickness of at least 3.0mm padding should be included in all custom footwear.

**Heels**

1. Leather stacked heels shall contain lifts of shoulder, having fibre structure and built to a height that allows suitable toe spring.
2. Synthetic heels such as those produced from Microcell rubber and EVA materials should be of a density that will provide some shock absorption when walking.
3. Top pieces - Topy type materials should be used for all heel top pieces with a minimum thickness of 4mm for women’s MGF and 6.0mm for men’s MGF.

**Nails**

1. Should be of a length as to securely attach all leather heels.
2. Attachment of leather heels should have a nail spread of at least six flat head heel nails.

**Eyelets**

1. Should be manufactured from a good commercial quality brass sheet and be spaced as necessary on the quarter lug.
2. Eyelets should be coloured to blend with leathers used within a reasonable colour band.

**Laces**

Should be tipped either with nylon or metal and be of a type and length for the patient to tie easily.

**Shanks**

1. Should be made of spring steel or suitable rigid material.
2. Should be correctly fitted to all MGF behind the joints and sufficiently secured under the heel breast.

**Counters/Stiffeners/Toe Puffs**

1. Should be made of leather, pre-moulded leather board type, or heat-moulded thermoplastic.
2. Should have sufficient stability, strength, height or length to support the needs of MGF.

**Stitching**

Uppers should be evenly spaced with a minimum of 16 stitches per 25mm.

**Adhesives**

1. Should be of a type that adheres to the selected material.
2. Should remain flexible and be effective for the life of the MGF.