# Specialists in pedestrian surfaces

"AATi Cast metal stair nosings for the rail & construction industries from AATi the masstransit stair nosing experts"

**Transport terminals** 

- Underground Rail

**Overground Network** 

- Bespoke Applications

- Public and Corporate spaces

Overseas

Tel: +44 (0)1376 346278 or Tel: +44 (0)1376 346666 E-mail: info@aati.co.uk Web: www.aati.co.uk



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**Company Overview** 

## History

AATi (Antislip Antiwear Treads International) formed in 1984 and adopted the traditional London Underground cast stair tread designs, which have been an enduring and very effective feature on the UK rail network for over 50 years. The company has developed the product range to encompass DDA (Disability Discrimination Act) requirements in modern stairway design, also focusing on uses outside the traditional markets; light rail, over-ground, **station terminals and a wide** range of commercial and architectural applications. All products are designed and manufactured in the UK.

### Why AATi

Functionally unsurpassed, all designs include a cast profile with encapsulated silicon carbide in the wearing surface. This ensures the pedestrian has the very best antislip foot contact on the stairway, both at initial contact and as full body load is put on to and leaves the step.

Casting the profile means that product design features are not constrained by the extrusion process and therefore standard or bespoke features can be designed into a final product, often with the benefit of 3D CAD visualisation. These two facts above allow a unique product to be developed with an architecturally functional and aesthetically pleasing appearance.

Over 50 current designs for different applications exist. Furthermore clients and their architects are welcomed to take part in this continuing research and design development procedure. Also an increasing number of retail stores and corporate businesses are requesting logos to be cast in to their stair nosing profile for individualised identity.





### Benefits from the use of the AATi Stair nosing system:-

- To reduce stairway accidents, injuries and insurance claims to the absolute minimum by providing the best and longest life antislip surface across the critical front portion of the stair tread.
- 2. To minimise lifetime cost of this safe system because AATi is the proven leader in this field.
- To clearly define the front edge of each tread as demanded across European and US Building Regulations and Disability Discrimination legislation.
- To minimise costly repairs and stairway closures due to both normal wear or, commonly, damage resulting from heavy luggage, vandalism or building maintenance operations.
- To optimise wet and poor-weather antislip performance by easily dispersing water and thawing winter products and cleaning fluids from the foot contact area.
- To enhance the architecturally excellent and beautiful appearance of the stairway even with bespoke patterns.
- To enable easy and inexpensive replacement of the front portion of the stair tread when it eventually becomes worn out or needs upgrading.
- To eliminate dangerous nosing-failure hazard often associated with light products used in heavy footfall environments.
- The comfort of having specified AATi for your long-term stairway investment, the best the international market is able to offer, designed, made, quality assured and supported from the United Kingdom.

#### AATi products can save you money

When looking at the 'whole-of-life' product philosophy, the wide range of AATi designs, made in four different materials, ensures that there is a competitive and excellently matched product for every stairway application. Cost justification is easily made due to the relative longevity of AATi products, compared to competing extruded products. Depending on footfall levels, depreciation costs and allowances for refitting, this results in AATi being the selected option time after time. Product selection must always take into consideration health and safety, contractor issues, passenger disruption, and service downtime.

#### AATi product safety

Taking into consideration statutory requirements and client design requests, AATi still applies its stringent design guidelines to all product applications. Many applications in the London area in particular are now showing such products still being in place in high footfall areas for well over 40 years, but still functioning adequately despite heavy wear and still at optimum safety levels.



Component failure when metal surfaces fall below the slip resistance value of 36.

SRV are only reduced after many years.

# - 'SIGHTLINE' PRODUCTS

Sightline products were first created in 1997 to help highlight the critical front edge of the step for those with impaired sight. It was later in 2004 when DDA regulations formalised these designs within UK Law and Buildings regulations. The original sightline designs were therefore modified to our Sightline 3 range as shown below. Importantly, resin inserts highlighting the edges in both the step (going) and the riser (front) were introduced.



- SN93/SL3/280PE AATi Sightline Nosing at ST. Pancras

St. Pancras - Thameslink - Following AATi's long association with LUL, and other major rail developments, bespoke versions of its SN93/SL3/280PE stair nosings with plain ends and landing plates all cast in Nickel Bronze were specified for the many stairs at St. Pancras Thameslink (as pictured left).

The castings were all made and cut to specific widths & lengths, the coloured resin fill was stopped short at the ends to satisfy the architects exacting details.

Similarly bespoke nosings were then made for King's Cross Northern Ticket Hall which also included a fan shaped stair.

This is an example of the "Sightline" product range developed by AATi to meet the requirements of the London Underground.

SN93/SL3/280 -AATi Sightline Nosing

# - St PANCRAS THAMESLINK



"Sightline" SN62/SL/280 with black resin infill, matching floor landing plates & tactile plates.



"Sightline SL3" SN93/SL3/280 with black resin infill.



## **`SIGHTLINE SL3' PRODUCTS**

**Item:** AATi type SN93/SL3/140 -Sightlinestair nosing with silicon carbide granules cast into the metal matrix of the wearing surface. The front edge is defined by coloured abrasive inserts and a continuous coloured line along the riser face.

Dimensions: 55 x 140 x chosen length

Materials: Nickel Bronze, Gunmetal, Aluminium. Safety yellow inserts supplied as standard. Black, white or other colours available on request.

Application: For heavily used public stairways requiring high performance, extended life stair nosings of attractive appearance. Unique tapered surface grooves and cast-in silicon carbide particles ensure safe performance in wet or dry conditions.

**Regulations:** Complies with the spirit of British Standards BS 8300:2009, Building Regulations Document M and DDA Regulations 1995 (Disability Discrimination Act).

NB: Compliance is subject to achieving a light reflectance value (LRV) of 30 points difference between the nosing insert and surrounding surface.

**Item:** AATi type SN93/SL3/280 -Sightlinestair nosing with silicon carbide granules cast into the metal matrix of the wearing surface. The front edge is defined by coloured abrasive inserts and a continuous coloured line along the riser face.

Dimensions: 55 x 280 x chosen length

Materials: Nickel Bronze, Gunmetal, Aluminium. Safety yellow inserts supplied as standard. Black, white or other colours available on request.

Application: For heavily used public stairways requiring high performance, extended life stair nosings of attractive appearance. Unique tapered surface grooves and cast-in silicon carbide particles ensure safe performance in wet or dry conditions.

## **Regulations:** Complies with the spirit of British Standards BS 8300:2009, Building Regulations Document M and DDA Regulations 1995 (Disability Discrimination Act).

NB: Compliance is subject to achieving a light reflectance value (LRV) of 30 points difference between the nosing insert and surrounding surface.

### SN93/SL3/140

SN93/SL3/280



## **`SIGHTLINE' PRODUCTS**

Item: AATi type SN32/SL/140 -Sightline- stair nosing with silicon carbide granules cast into the metal matrix of the wearing surface. The front edge is defined by coloured abrasive inserts.

Dimensions: 16 x 140 x chosen length

Materials: Nickel Bronze, Gunmetal, Aluminium. Safety black inserts supplied as standard. Yellow, white or other colours available on request.

Application: For heavily used public stairways (typically heritage sites or for repair works) requiring high performance, extended life stair nosings of attractive appearance. Unique tapered surface grooves and cast-in silicon carbide particles ensure safe performance in wet or dry conditions.

Regulations: Non-compliant to the current Disability Discrimination Act 1995 (DDA).

Item: AATi type SN62/SL/140 -Sightline- stair nosing with silicon carbide granules cast into the metal matrix of the wearing surface. The front edge is defined by coloured abrasive inserts.

Dimensions: 34 x 140 x chosen length

Materials: Nickel Bronze, Gunmetal, Aluminium. Safety black inserts supplied as standard. Yellow, white or other colours available on request.

Application: For heavily used public stairways (typically heritage sites or for repair works) requiring high performance, extended life stair nosings of attractive appearance. Unique tapered surface grooves and cast-in silicon carbide particles ensure safe performance in wet or dry conditions.

#### Regulations: Non-compliant to the current Disability Discrimination Act 1995 (DDA).

### SN32/SL/140

### SN62/SL/140

# - WIDELINE' PRODUCTS

Wideline products were created in 2004 in preparation for the new Disability Discrimination Act regulations (DDA). The regulation states that there must be a means of a permanently contrasting material on both the tread and the riser to aid the partially sighted. AATi were able to design many different applications to fulfil these requirements.



**Canterbury West Station** 

### Access For All (AFA) -

AATi are pleased to have now supplied stair nosings for applications within the 'Access for All' scheme, on Canterbury West, Cambridge, Sittingbourne & Denmark Hill stations. To avoid costly mixed materials on the wearing surface, AATi supplied full step-width aluminium stair nosings, as pictured left on Canterbury - SN293/WL/307UR.

Working closely with customers AATi also manufactured a bespoke version of our standard profile SN293/WL/280B to incorporate an underside radius to suit the bend in their steelwork.

AATi stair nosings used and specified by Network Rail on the AFA bridges meet the DDA requirements, with contrasting colour resin inserts built into the leading edge of the nosings. Carbide granules cast into the nosings greatly reduces wear and also increases slip resistance.

AATi "Wideline" Product Range

# - CANTERBURY WEST STATION



"Wideline" SN293/WL/307UR with yellow resin infill.



## **'WIDELINE' PRODUCTS**

Item: Heavy duty general purpose AATi SN293/WL/84 cast metal stair nosing with Silicon Carbide granules cast into the metal matrix and "Wideline" coloured resin antislip insert to top surface and face, all designed around the requirements of the DDA.

Dimensions: 55 x 84 x chosen length

Materials: Nickel Bronze, Gunmetal or Aluminium. Standard resin colours are black or yellow but other colours within the RAL and the NCS ranges are generally available.

Application: Heavy duty general purpose nosing design where a full depth nosing is not desired, suitable for many different applications/fixing to steel, wood or concrete. It is recommended that these nosings are fully recessed into the step surface and mechanically fixed (i.e. screwed) into position.

**Regulations:** Complies with the spirit of British Standards BS 8300:2009, Building Regulations Document M and DDA Regulations 1995 (Disability Discrimination Act).

NB: Compliance is subject to achieving a light reflectance value (LRV) of 30 points difference between the nosing insert and surrounding surface.

**Item:** AATi type SN293/WL/280B -Wide linestair nosing with silicon carbide granules cast into the metal matrix of the wearing surface. The front edge is defined by coloured abrasive inserts and a continuous coloured line along the riser face.

Dimensions: 55 x 280 x chosen length

Materials: Nickel Bronze, Gunmetal, Aluminium. Safety yellow inserts supplied as standard. Black, white or other colours available on request.

Application: For heavily used public stairways requiring high performance, extended life stair nosings of attractive appearance. Unique bevelled rear face and cast-in silicon carbide particles ensure safe performance in wet or dry conditions.

Regulations: Complies with the spirit of British Standards BS 8300:2009, Building Regulations Document M and DDA Regulations 1995 (Disability Discrimination Act).

NB: Compliance is subject to achieving a light reflectance value (LRV) of 30 points difference between the nosing insert and surrounding surface.

## SN293/WL/84

SN293/WL/280B

## **WIDELINE' PRODUCTS**

**Item:** AATi type SN293/WL/307/UR Wideline stair nosing with silicon carbide granules cast into the metal matrix of the wearing surface. The front edge is defined by coloured abrasive inserts and a continuous coloured line along the riser face.

Dimensions: 55 x 307 x chosen length

Materials: Nickel Bronze, Gunmetal, Aluminium. Safety yellow inserts supplied as standard. Black, white or other colours available on request.

Application: For heavily used public stairways requiring high performance, extended life stair nosings of attractive appearance. The under-radius back edge is designed to create a better finish when a bend in a fabricated steel stair meets the underside of a nosing, specifically on applications such as AFA footbridges.

**Regulations:** Complies with the spirit of British Standards BS 8300:2009, Building Regulations Document M and DDA Regulations 1995 (Disability Discrimination Act).

NB: Compliance is subject to achieving a light reflectance value (LRV) of 30 points difference between the nosing insert and surrounding surface.

Item: AATi type SN2/WL/84 Cast Metal Stair Nosing with silicon carbide granules cast into the metal matrix of the wearing surface, and "Wide line" Coloured Resin Antislip Insert to top surface.

Dimensions: 10.5 x 84 x chosen length

Materials: Nickel Bronze, Aluminium, Gunmetal.

Application: For use on high footfall public stairs where safety and durability are required and a full nosing not necessary. The coloured insert also has a high silicon carbide content to provide good antislip antiwear properties.

## SN2/WL/84

S. F. C. M.

**Regulations:** Non-compliant to the current Disability Discrimination Act 1995 (DDA). However, this nosing could comply if used in conjunction with contrasting riser product.

NB: Compliance is subject to achieving a light reflectance value (LRV) of 30 points difference between the nosing insert and surrounding surface.

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SN293/WL/307/UR

# - 'HDLT' PRODUCTS

Heavy Duty London Transport designs (HDLT) traditionally were the standard AATi product and some examples are still widely in use after sometimes 60 years on un-refurbished stairs throughout the London Underground. HDLT nosings are now used for heritage and replacement but also in some forms for new DDA applications. If it is a conventional and rustic appearance you are looking for, AATi's HDLT range has the aesthetics to sustain natural urban beauty.



**Bespoke Ventilated Stair** 

AATi "HDLT" Product- SN9/55 Knightsbridge Station - This contract required the bespoke design of 3 different castings, forming a 'ventilated' stair for the then new LUL stairway near Harrods.

The challenge was to supply a gunmetal nosing on the front part of each step with a cast iron plate behind to give colour contrast, but full coverage.

Behind that a 'toe plate' aluminium casting was positioned forming part of the riser of the step thus leaving room for the exhaust ventilation of the room under the stair.

This is an example of the "HDLT" product range developed by AATi to meet the requirements of the London Underground. There are a number of variants of this product & bespoke designs can also be developed to meet an individual customer's requirements.

# - KNIGHTSBRIDGE STATION



"HDLT" SN6/100 & SN6/280 gunmetal nosing, cast iron floor plates, & aluminium 'Toe Plates'.



## **'HDLT' PRODUCTS**

Item: AATi type SN9/HDLT/55 Cast Metal Stair Nosing with silicon carbide granules cast into the metal matrix of the wearing surface.

Dimensions: 55 x 55 x chosen length

Materials: Nickel Bronze, Gunmetal, Aluminium or Cast Iron.

Application: Whilst specifically designed around the physical requirements of the DDA, this stair nosing is suitable for many different applications and exhibits the same longevity and hard wearing/heavy duty characteristics as our larger profile nosings.

**Regulations:** Complies with the spirit of British Standards BS 8300:2009, Building Regulations Document M and DDA Regulations 1995 (Disability Discrimination Act).

NB: Compliance is subject to achieving an LRV Rating of 30 points difference between the nosing and surrounding surface.

**Item:** AATi Type FP2/300 Cast Metal Floor Plate with Silicon Carbide Granules cast into the metal matrix of the wearing surface.

Dimensions: 9 x 300 x chosen length

Materials: Nickel Bronze, Gunmetal, Aluminium.

Application: For heavily used public stairways and landing areas. This profile was specifically designed to match the groove surface pattern of our " HDLT " nosings. Therefore they can be used to cover complete landings or any other areas where extremes of wear are likely.

### FP2/300

SN9/HDLT/55



Regulations: This product meets the Slip Resistance Values (SRV) required by British Standards BS 8300:2009 and Building Regulations.



## **'HDLT' PRODUCTS**

Item: AATi type SN9/HDLT/140 Stair Nosing with silicon carbide granules cast into the metal matrix of the wearing surface.

Dimensions: 55 x 140 x chosen length

Materials: Nickel Bronze, Gunmetal, Aluminium or Cast Iron.

Application: Heavily used public stairs (typically heritage or for repair works) where safety and durability are required. Special surface finish with unique tapered groove pattern ensures safety in wet and dry conditions.

Regulations: Non-compliant to the current Disability Discrimination Act 1995 (DDA).

Item: AATi type SN30/60 Cast Metal Stair Nosing with silicon carbide granules cast into the metal matrix of the wearing surface.

Dimensions: 30 x 60 x chosen length

Materials: Nickel Bronze, Gunmetal, Aluminium or Cast Iron.

Application: For light to medium footfall applications. This nosing was designed to meet standard building regulations -BS 8300:2009 and is rapidly becoming a popular cost effective solution.

### SN30/60

SN9/HDLT/140



**Regulations:** Complies with the spirit of British Standards BS 8300:2009, Building Regulations Document M and DDA Regulations 1995 (Disability Discrimination Act).

NB: Compliance is subject to achieving an LRV Rating of 30 points difference between the nosing and surrounding surface.

# **FURTHER PRODUCTS**

### Product Range:

AATi also manufacture a wide range of further products:

- Islamic patterned nosings
- Tactile/Hazard warning surfaces
- Floor landing cover plates
- Platform edge tiles
- Drainage grates
- Antislip resin bars & discs
- Antislip inserts
- Bespoke products as per individual customer requirements



nti Slip Resin

- AATi Islamic products -

**Further Products:** A further range of HDLT nosings are available. Namely smaller nosed variants of those previously shown in the brochure, designated SN6, and SN3. Lighter duty nosings are also available, for example SN22, SN28 & ASB series. Please enquire for further details.



- Drainage Grille

## **AATi Drainage Products**

A range of linear drainage safety flooring products are now available to suit diverse high-footfall flooring applications. Manufactured to exactly match, in looks and performance to the AATi stair nosing product range. The AATi type HG/DC utilises the unique and widely specified AATi, cast metal, Silicon Carbide impregnated antislip cast metal surfaces.

### **Key Features:**

- Corrosion resistant bronze grating and stainless steel gully
- Multi-directional slip resistant to building standards and railway engineering standards, SRV over the required 36 point rating in both dry, wet and flooded conditions
- Easy assembly, installation and gully cleaning
- Security lockdown points
- Architecturally pleasing to the eye and metal-matched to existing or new AATi stair nosings nearby
- Drainage fall adjustable to building regulations requirements

Item: AATi type HG/DC

Dimensions: From 76mm wide up to 150mm wide x 75mm deep x chosen length

Materials: Nickel Bronze or Gunmetal.

Application: For heavy-footfall pedestrian areas where water run-off needs to be drained and simultaneously, pedestrians cannot be excluded. Particularly suitable in locations such as; train stations, at the foot of high-footfall external stairways, shop fronts, prominent or architecturally important and exclusive building entrance thresholds etc.

## Recommended Installation Guidelines for fixing to concrete.

- 1. Check surface is sound and level.
- Make good any worn or damaged areas or uneven surfaces with Ardex A46 or similar authorised rapid setting and hardening repair mortar (as below).



- 3. Position AATi nosing onto step in correct position.
- 4. Spot through holes using 7mm masonary drill bit.
- 5. Lift off nosing and drill pilot holes through spotted positions using a 13mm drill bit.
- 6. Clean out dust/dirt or any other contaminants from hole.
- 7. Push Rubber Rawlnut type 6350 down into concrete substrate.
- Apply Damp Proof Course (Rubberoid Hyload original DPC) to cover the entire internal face of the nosing.
- 9. Place nosing back into position on step ensuring it is fully supported.
- Fix by inserting appropriate length (50mm) M6 Pozi stainless steel countersunk machine screw and tighten to form a secure fixing.

Fig 1. Section view of fixing detail for stair nosing- SN93/SL3/280

DPC Rubber Rawlnut type 6350 Repair mortar

Existing concrete

M6 x 50 ss csk pozi m/c screw

NB: Nosing's must be installed in such a way that standing water is omitted. Please refer to AATi O&M Manual. Fig 2. Isometric section view of fixing assembly for stair nosing-SN93/SL3/280

## Recommended Installation Guidelines for casting into concrete.

- 1. Ensure the underside of nosing is clean from dust/dirt or any other contaminants.
- 2. Cut an appropriate size piece of DPC to cover the entire internal side of nosing.
- Apply Damp Proof Course (Rubberoid Hyload orignial DPC) to cover the entire internal face of the nosing and drill through holes in nosing.
- Insert M6 x 20 stainless steel countersunk pozi machine screws through nosing and DPC into AATi cast iron anchor blocks and tighten.
- Position AATi nosing with DPC membrane into mould unit and protect as necessary to stop slurry getting on to visible surfaces of the nosing.
- 6. Mix and pour concrete.
- 7. Leave to set.
- 8. Remove from mould as soon as possible and clean as necessary.
- Fig 1. Section view of fixing detail for stair nosing -SN93/SL3/140

M6 x 20 ss csk pozi m/c screw



AATi AB1-6 Cast Iron Anchor Blocks

Existing concrete

Fig 2. Isometric section view of fixing assembly for stair nosing-SN93/SL3/140

NB: Nosing's must be installed in such a way that standing water is omitted. Please refer to AATi O&M Manual.



## Accreditations



### ISO 9001:2008



### **Achilles Link up**

## Customer Endorsements



"London Underground it a very tough environment for any material to perform in; flooring UNDERGROUND and stair surface products take extreme punishment due to enormous and increasing footfall' and the use of ubiquitous and ungainly heavy wheeled suitcases. As a Chartered Architect I am acutely aware that I work in a very litigious environment; I have a statutory legal 'duty of care' obligation to ensure that all components and materials that I specify strictly adhere to stringent legislative requirements; that products always perform in such a way as to minimise any foreseeable harm to all users. AATi products provide that unequivocal legal aegis. AATi products are also beautifully designed and manufactured."

Alan S. R. Howarth. RIBA. Chartered Architect.| Design Engineer Stations Improvement Project BSc (Hons) UCL, Pre-Dipl Arch (UCL), Dipl. Arch (UCL), ARB, ICIOB, C.Build E FCABE, MIET. Capital Programmes Directorate| London Underground

### bourne

"Having worked with AATi on various prestige projects, their products, quality, and customer service are 1st Class. From Tender stage right through to the manufacturing process and installation on site their commitment to serve and offer knowledge in the market is truly exceptional"

Richard Bell Contracts Manager Bourne Construction Engineering Limited



"AATi have been one of our approved suppliers for many years, and they have always worked within our tight programs and supplied a first class product"

Rob Stevens Managing Director Robert Stevens & Sons Ltd



DMC Contracts Ltd have enjoyed a very successful working relationship with AATi for over 15 years. The products, support and technical back up that AATi provide enable DMC to successfully deliver their contracts on time and to the satisfaction of our client. At DMC we feel that these attributes have kept AATi at the forefront of their business and these are the reasons why DMC have formed a strategic partnership with AATI to deliver works throughout the UK."

David McCartney Chief Executive **DMC Contracts Ltd** 





### **Recycle scheme**

AATi are now offering a recycling scheme which helps reduce its carbon footprint and helps the environment. The actions of recycling scrap metal decrease the depletion of natural resources but they also omit other types of pollutants that are produced due to mining activities. There are a lot of toxic gasses (green house gasses) that are emitted during mining activities and recycling helps reduce this. A vast amount of energy is also saved as recycling takes up less energy as opposed to mining and transporting virgin ore. Metal can be recycled without losing its important chemical properties.

#### How we can help

Historically AATi are known for the longevity and hardwearing of their cast metal stair nosings and recycling their old stair nosings make them a more cost effective choice when selecting their products for your stairway. Please contact a member of the AATi team for a valuation and current rates which are based on the London Metal Exchange (LME).

## - SERVICES

#### Installation:

AATi product which has not been installed in the recommended way may lead to failure or conditions which are optimum in terms of safety. the company provides installation guidelines to ensure safe and hazard free fitting.

#### Maintenance:

By the very nature of the product damage, wear, or discolouration may occur due to a wide range of reasons. AATi's pledge is to give advice on a sensible course of action to remedy problems with either their product or those of other manufacturers.

#### Surveys and site visits:

AATi engineers and sales staff are available to consult on all technical aspects of product and installation. Where necessary site visits can be arranged.

#### Product Design:

With a wide range of product covering light aluminium stair nosings through to coverall products and heavier duty profiles, all with the option of coloured resin inserts, AATi products can be both chosen from standard design or modified to suit exact customer needs. With the capabilities of using the advantage technologies such as 3D CAD design and 3D rapid prototyping, AATi can produce a fully functional 3D model to help you visualise what your end product will look like.

AL TO PATTERN







Railways

AATI - The acknowledged leading UK manufacturer and supplier of stair nosings for high footfall applications for many pedestrian environments. These include rail and underground stations, shopping malls, multi-storey car parks and railway carriage thresholds.

Our top specification cast metal antislip gratings, plates, insert bars and over 50 different stair nosing designs have a typical life span of more than 20 years. They have lasted for much longer depending on footfall, whilst AATi antislip aluminium products provide an economic and effective alternative for lower footfall applications.

> Tel: +44 (0)1376 346278 Tel: +44 (0)1376 346666 E-mail: info@aati.co.uk Web: www.aati.co.uk