



AVANTA

MEZZANINE FLOOR

PROJECTS 3



Avanta UK Ltd is an independent company with over 20 years experience in designing and sourcing equipment. Long term partnership arrangements and rigorous appraisal of our portfolio of extensive manufacturing partners ensures that our clients have access to high quality and competitively priced standard and non-standard products.

Our specialities include mezzanine floors, storage systems (including warehouse shelving, pallet racking, longspan shelving and mobile shelving systems) and interior solutions (including office partitions, office storage, steel partitions, mesh security cages and workbenches).

We cover the whole of the UK and work closely with the major manufacturers offering warranty, peace of mind and on going support.

See more case studies at
www.avantauk.com

Some of our clients...

NEXT

END.

Jet2

B BRENNTAG



LOCKWOOD
your supply chain partner

ph Polyco
Healthline

T.K.maxx

Joe Browns



SPORTS
DIRECT

SPORTSHOES
.COM

♥ YOURS

febi
bilstein

Barbour

mamas
& papas

O ZYRO
FISHER

James Cargo
FULFILMENT

3pluk

Schneider
Electric

SULZER

antalisTM

MEGGITT

DS
Smith

Network
Plus

Unilever

CARNAUD METALBOX
ENGINEERING

AFLEX HOSE

GRADUS

Geek+

Stelrad

enfinium

ALLSAINTS

arrowxl
beyond delivery



Web: www.avantauk.com

Email: sales@avantauk.com

Multi Tier Fire Rated Retail Mezzanine Floor Project

Leeds-based storage equipment specialist, Avanta UK Ltd successfully tendered for and delivered a turnkey warehouse improvement project for a leading multi-channel fashion retailer.

The client is long established in the fashion arena selling garments and footwear through mail order, ecommerce, franchises, concessions and its own stores.

Having completed a significant warehouse extension, the next stage for the client was to engage with a specialist storage equipment provider to optimize the storage capacity of the cubic space within the extension, improve pick rates and lock into the warehouse management system to service the afore mentioned channels.

Warehouse Storage Solutions

All items are picked from the BDCM1 Retail box / carton, and the system was designed around the box and the available space.

The solution included:

Two Tier Mezzanine Floor

The mezzanine floor came in at a healthy 4,271m² (46,083ft²) and is fire rated to 1 hour with suspended ceilings, fire enclosed staircases with fire escape doors.

There are 120 linear metres of handrail and temporary handrail, and safety netting was employed during the build of the mezzanine floor.

Ground and level 1 are to be used for the main storage and picking operation with the smaller level 2 to be used for bulk and overstock.

Lighting and Smoke Detection

PIR lighting was installed throughout the structure with power and data for the sortation and packing area benches also supplied and installed. Electrical supply was installed for the mezzanine floor goods lifts and conveyor system. Smoke / Fire detection system was a pre-requisite of the Building Regulations organised by Avanta UK.

Mezzanine Floor Goods Lifts

Floor slab preparation works took place for 2x mezzanine floor goods lifts to service all levels of the mezzanine floor took place. The lifts enabled the safe movement of products in totes between levels. Avanta oversaw the installation and the commissioning of the goods lifts to all relevant standards.

Warehouse Shelving Systems

Longspan Warehouse Shelving

Avanta UK designed, supplied, delivered and installed 1057 bays of BDC box storage shelving. Each shelf level is complete with a mesh shelf with integral divider for back-to-back storage of the picking boxes. This gave the client the capacity to store circa 58,000 BDCM1 boxes to pick directly from. The shelving system is designed to have no wasted space with the bay sizes designed around the box size.

Returns Shelving

No Internet retail warehouse is complete without a dedicated area or facility to store individual returned items. Avanta UK have designed and developed a returns shelving system that in this instance the 96 bays supplied gave the client circa 3168 return locations to pick from and re-work.

Sort / Pick / Pack Area Workbenches

With power and data to a specific area of the mezzanine floor, Avanta UK supplied 40x bespoke packing 2.1m length workbenches complete with louvre panels, base and upper shelves.

Conveyor System

Complete with bar code reading, warehouse management interface and service package, the conveyor package offers the client a quick, cost-effective method of moving products in plastic totes around the 3 levels. With powered rollers, decline belts and lift up transfers, this conveyor system is an efficient mode of transporting product around the warehouse to the pick pack area workbenches. There is circa 150m of conveyor on this project.

Picking Totes

2000 stack and nest containers 600 (L) x 400 (W) x 325 (H) mm with 15KG capacity in 4 colour ways were supplied for multiple picks in the trolleys and conveyor systems.

Trolleys

20 off bespoke picking trolleys designed and supplied. Each trolley is designed to accommodate and transport 12 totes.

Principal Contractor Role

With a project of this size / duration to conform with Construction (Design and Management) Regulations 2015 (CDM) Avanta UK Ltd acted as Principal Contractor (PC). This included full site set up with welfare facilities for all trades, full site supervision with suitably qualified site management throughout.

Avanta was responsible for full health and safety in the CDM area throughout the project.

The Project

This turnkey project was a 2-phase programme with 60% of the fire rated mezzanine complete

with shelving could accommodate stock that was originally bulk stacked in the warehouse extension. This then freed up the space to move to phase 2 and this included the remaining 40% of the mezzanine, conveyors, goods lifts and ancillary items.



4,271m² Two tier mezzanine

58,000 BDCM1 box locations

3,168 Returns locations

150m of conveyor employed







Avanta UK Ltd - Unit B1, Astra Park, Parkside Lane,
Leeds, West Yorkshire, United Kingdom, LS11 5SZ

AVANTA



Multi-level Storage Solution for Fastest Growing Workwear Retailer

Workwear Express, established in 1990 is a leading retailer in Personalised Workwear, Uniform & Promotional Clothing. Now, part of the Bunzl plc family the company is the fastest growing workwear retailer in Europe with a customer base of over 600,000 (Trade & Private) clients, serving businesses across one hundred different countries. From concept and production of a 20,000+ product range and offering secure, next day delivery, Workwear Express is an extremely busy company, looking to expand storage capacity and maintain product throughput.

Workwear Express has two purpose-built factories and fulfilment centres, with over three hundred dedicated colleagues all headquartered in Durham, UK.

To make full use of the cubic height in 1x fulfilment centre, Avanta UK was invited to design, supply and install a turnkey solution to increase storage of finished goods.

Using short span shelving with adjustable shelf levels, dividers and bin fronts on a two-tier fire rated mezzanine measuring 425m2 offered the client an additional circa 7500 pick locations. **There were 4 different bay profiles to suit different sized packets, garments, and boxes throughout the scheme.**

A storage mezzanine floor is not tied into the building and therefore is a free-standing

structure. This means that the rateable value of the warehouse building has not changed. Effectively, the client has increased the square footage of a building whilst keeping business costs down.

The adjustable elements of the shelving coupled with a mezzanine structure gives Workwear Express a future proof storage solution to add locations, change layouts and re-purpose areas as the business grows. For example, if a personalisation area is required or moving the pick and pack area upstairs then the shelving can be re-configured to suit.

The mezzanine levels can be loaded via pallet gate per level and individual product, boxes, parcels etc can travel between each mezzanine level via a bespoke spiral chute.

Part of the scheme included fifteen bespoke packing stations on the ground floor to accept items from the chute and two stations positioned on the mezzanine.

As an extra safety measure the perimeter edge protection of both mezzanine floor levels had a mesh guard to arrest the fall of any small items from the floor.

Prior to the storage solution installation Avanta UK installed a full floor area type 3 epoxy resin floor coating to seal and smarten the overall appearance of the ground floor.

Workwear Express corporate brand colours feature throughout the scheme with the distinctive orange handrail, workbenches, and moulded chute.

Practical competition in time for a traditional peak period was achieved.



7500 Pick locations

425m² Fire rated mezzanine

17 Bespoke packing stations

Grey epoxy smooth resin floor







Two by Two Tier Fire Rated Mezzanine Floor Project

Avanta UK successfully tendered for two fire protected two tier mezzanine floors in adjoining fire chambers of a largescale retail warehouse operation.

This wide-ranging project also included various shelving systems, automation, goods lift, and packing benches.

Following a number of meetings with the client and MHE provider to gain a better understanding of their processes, the proposed storage solution would need to seamlessly integrate with the existing automation as well as create a vast storage area.

The castellated end of the mezzanine floor(s) linked in with the Very Narrow Aisle (VNA) Racking system and aligned with the racking aisles allowing the VNA trucks to side load palletised stock straight on to the mezzanine levels.

The wire guidance was extended past the aisle into the infeed conveyor. An automated drop on conveyor system designed to receive single and double pallets was proposed for the infeed of the floor allowing palletised stock to be transferred from the racking to the mezzanine seamlessly.

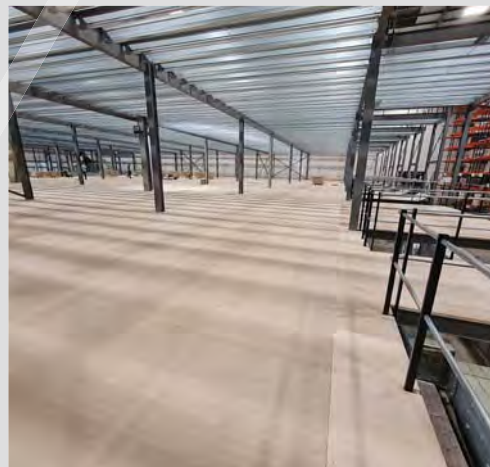
The pallet transfer system takes the pallet to the operatives who will then manually receive the pallets using pump trucks. The stock can then be distributed into the BDC (Bulk Distribution Carton) shelving located on the mezzanine floor.

The project also included:

- A dedicated Avanta projects team co-ordinating all trades
- Principal Contractor cover with HSE notification of start dates etc.
- A 4-pallet capacity goods lift was installed, and this included building works and pit formation
- Relocation of existing five tonne box making machine to the top level of the mezzanine. This included the decommissioning, transport, contract lifting and commissioning. This meant the mezzanine required retrofitting steel strengthening support.
- The decommissioning of an existing conveyor system at an adjacent site and relocate to level one of the mezzanine floor to feed the packing benches

The 2x two tier mezzanine floors were tied together through a 4-hour fire rated wall. One of the mezzanines also tied into an existing mezzanine floor.

All penetrations through the fire wall had to be design engineered with support steel and design specified fire protection.



10,000m² Mezzanine floor

40 Week project

Principal contractor role

Integration with automation







Mezzanine & Shelving Project Phase 1

The project took place in the North of the UK and it was for a fire rated multi-tier mezzanine floor measuring approximately 14,500 Square Metres. To put this into context the total floor area is nearly the equivalent to 4 full size football pitches.

Mezzanine Floor – The Detail...

This project is a two tier platform with each platform measuring 7210.57 metres square and the finished floor levels are set at 3900mm and 7500mm.

The existing warehouse floor slab was piled to accommodate the additional load and this gave Avanta the opportunity to increase the span between the columns and set the footplates into the floor slab and thus reducing obstructions and creating a neat finish.

The floor loading is rated at 5Kn/m2 and load access is via a goods lift and 4 up and over pallet gates.

There are 6 staircases with mid landings and over 800 linear metres of handrail and kickplate. In addition to the hand rail extra protection is achieved using 1200mm high mesh panel to prevent boxes falling.

To meet building regulations the whole mezzanine structure is fire rated to 1 hour. This meant that each column had to be fully encased with a PVC Vermiculux clip on casing. To the underside of both levels a full suspended ceiling is fitted and suitable facia

board is fitted to the perimeter.

Both floor levels were finished in a two pack epoxy floor seal providing an anti-slip waterproof finish to the mezzanine deck.

Also...

Avanta also supplied wrap around column protection for the ground floor and full barrier protection to the perimeter.

On the middle floor Avanta supplied and built longspan shelving with mesh decks to create 40,000 BDC box locations.

On the top floor Avanta designed and supplied various workbenches and trolleys creating a new QC Area and garment hanging section.

Timescale

The whole project was completed in 36 weeks.

Outcomes

With the addition of this mezzanine, apart from the obvious space creation this project has enabled-

- The creation of 200+ new jobs.
- Increased storage capacity.
- Improved picking rates.
- Consolidated teams.
- Saving of money in comparison to building or purchasing additional warehouse space.
- The floor can be extended upwards and outwards if required to suit the needs of the business.
- The use of the floor could be changed or adapted if required e.g. offices or control rooms can be added.





Multi tier mezzanine floor

Floor approx: 14,500m²

6 Staircases

4 Up and over pallet gates





Mezzanine & Shelving Project

Phase 2

In principle, Mezzanine floors are a free-standing independent structure that is modular and therefore can be adapted, extended and even relocated if required. This helps a business to increase storage capacity and work areas or create new office space to support growth.

Only 2 years ago Avanta UK Ltd designed, supplied and installed a huge fire rated two tier mezzanine floor for a leading multi-channel retailer and were invited back to extend the floor.

The original floor measured 14,500m² and the extension would offer a further 7,500m² for the client to utilise.

An additional 300 linear metres of hand-rail were required to levels 1 and 2 and an additional 3 staircases.

The extension was fire rated for 1 hour protection using suspended ceilings to the underside of both levels and all steel columns encased in fire rated column casings and fascia to match.

The two timber decked levels were finished with a clear epoxy resin giving anti-slip and water proofing properties.

Selected Statistics

Mezzanine Floor

Phase 1	14,500m ²
Phase 2	7,500m ²
Total	22,000m ²

Handrail

Phase 1	800 linear metres
Phase 2	300 linear metres
Total	1100 linear metres

Staircases

Phase 1	6
Phase 2	3
Total	9

In addition to the existing Longspan Shelving supplied and installed by Avanta that gave 50,000 BDC box locations, Avanta supplied and built new Longspan shelving that offered an additional 60,000 BDC locations. The shelving has drop over mesh decks with an integral divider and floor level also had a box section back stop.

Mezzanine Floor Uses Include...

Running concurrently with the mezzanine project were multiple projects centred around the uses of the floor. In addition to the BDC storage these include:

- Secure partitioned area formed from solid steel and mesh panels with garment hanging system for high value stock.
- Creation of specific self-contained workspaces for concessions including partitions, suspended ceilings, benches and more.
- Covid secure packing areas with 2mx1m workbenches and 2m high covid screens.

Working in close partnership with the client over many years and many successfully completed mezzanine projects has enabled Avanta UK to refine its offering to suit the client's expectations exactly. This includes the decking finished in anti-slip waterproof resin. All edge protection is complete with additional 1200mm high mesh panels for extra fall arrest protection of product.





Multi level mezzanine floor

A further 7,500m² floor space

Extra 60,000 BDC box locations

300 Linear metres of handrail



Zyro Fisher Mezzanine Floor Project

The client is the leading distributor of Parts, Accessories and Clothing to the UK and Irish cycling markets representing over 50 world-class brands whose products are chosen, trusted and tested by leading athletes around the world.

After a period of sustained growth in the aforementioned markets especially within the domestic cycling segments, the Darlington based client has taken proactive steps within its multi brand distribution business to improve storage capacity and efficiency. Part of the plan has always been to utilize some of the vertical height with a large mezzanine floor and Avanta UK successfully completed the project for Zyro Fisher.

The single level mezzanine floor provided an additional 450m² of storage with a finished floor level of 3400mm (giving a clear 3053mm). There is 84 linear metres of handrail and access is via 2 staircases.

Unusually perhaps, the floor has 11x up and over pallet gates each with 2500mm wide clear internal to accept 1600mm high pallets to suit the Zyro Fisher operation.

The mezzanine floor has a one hour fire rating achieved using a full suspended ceiling to the underside finished with fire rated square edge ceiling tiles. All steel columns are encased with white vermiculux casings and have steel column protectors to avoid accidental damage. All lighting within the ceiling is on PIR sensors to save energy use.

Avanta UK acted as principal contractor which means to plan, manage, monitor and coordinate health and safety of multiple trades for the duration of this project.

Avanta handled all the Building Regulations – a legal requirement for any mezzanine floor, and Planning Applications to Local Authorities. Our Building Regulations Experts consult with the local council and other relevant bodies including the local fire authority.





Single level mezzanine floor

450m² of storage

84 Linear metres of handrail

11 Up and over pallet gates









Storage Equipment Fit Out Project For New Lockwood Group Distribution Centre

Lockwood Group have had a new 110,000sq ft warehouse purpose built in Denby to add to their existing 7 UK Sites. The Group is a family run business and currently has over 280 employees and activities include UK haulage and storage, frozen food production and commercial vehicle maintenance.

Leeds based Storage Equipment Specialist Avanta UK Ltd worked closely with the Lockwood team and Handling Equipment Specialists to optimise the pallet storage of the new Grade A Warehousing Facility.

The project included: -

- **Pallet Racking - Arranged in a very narrow aisle configuration to 13 metres high giving a storage capacity of circa 24,000 pallets to store a combination of Euro and UK pallets.**
- **Mezzanine Floor - Two tier fire rated mezzanine floor giving circa 1000 square metres of additional storage space. Access is via a utility and general access staircases. Pallet access is via 4 pallet gates.**
- **Protective Barriers and Upright Protectors.**
- **Pallet Location Labels.**

Lockwood Haulage are one of the UK's leading logistics providers. They have a large diverse fleet, with cost effective, quality, sustainable logistics solutions. Lockwood sites are in excellent locations to serve the whole of the UK and beyond on a same-day or next day basis.

With the addition of this excellent new facility Lockwood are in the perfect position to deliver on their client promise.



Avanta UK Ltd offers a full office and warehouse interior design and installation service. We offer a free Site Survey and CAD Design and Consultancy Service, responding promptly to your enquiries.











CONSULTATION / SURVEY

We carry out a free, no obligation site survey to decipher your exact requirements.

DESIGN SERVICE

At Avanta we have the expertise to design your workspace to suit your needs.

PROPOSAL

We prepare a document that will highlight the key areas of the potential project.

PROJECT PLANNING

We will appoint you a Project Manager who will be a single point of contact during your installation.

PRODUCT DEVELOPMENT

We work with you and with our manufacturing partners to source the best products for the job.

PROJECT MANAGEMENT

We will provide information as required and oversee the smooth running of your project.

HEALTH & SAFETY

Projects are delivered safely and in accordance with the latest regulations.

INSTALLATION

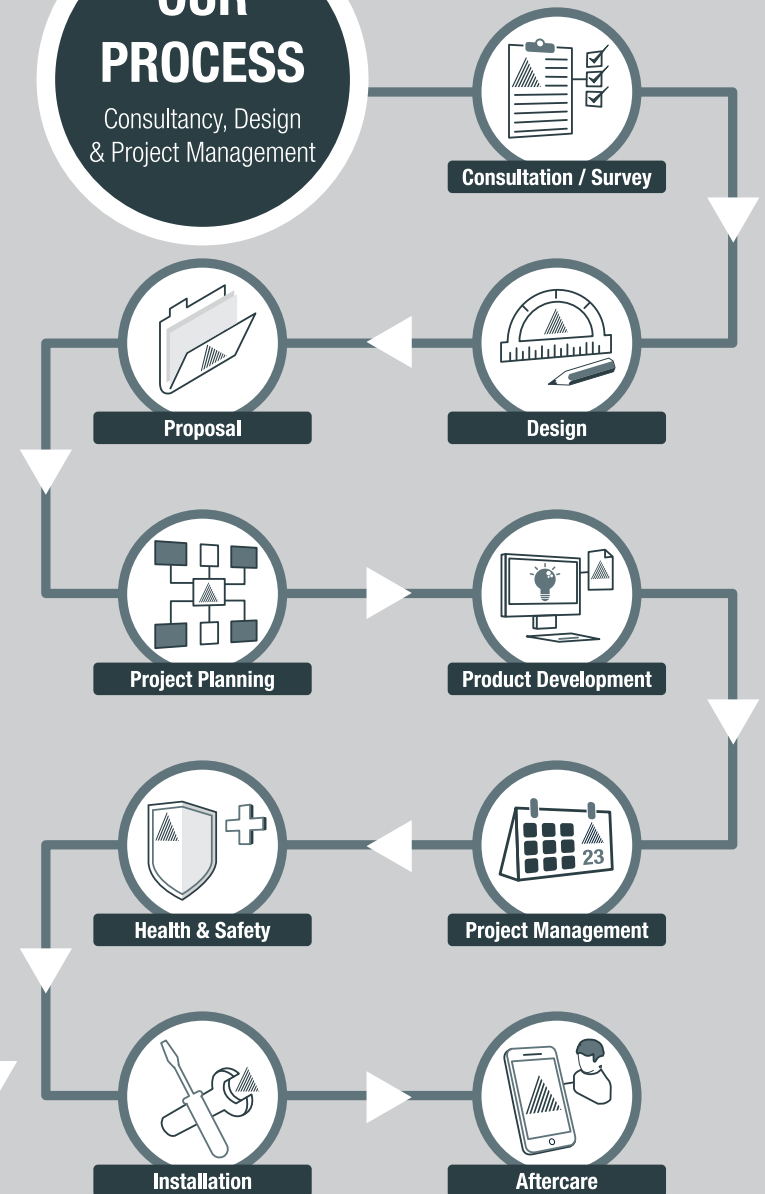
Equipment is installed in accordance with SEMA guidelines by SEIRS qualified installers.

AFTER CARE

We offer further ongoing technical support and maintenance if required.

OUR PROCESS

Consultancy, Design
& Project Management



MEZZANINE FLOORS

OFFICE INTERIORS

PALLET RACKING

SHELVING SYSTEMS

STEEL PARTITIONS

WORKPLACE EQUIPMENT

WAREHOUSE FLOORING

PRINCIPAL CONTRACTOR

AVANTA

Tel: 0113 384 8777

Web: www.avantauk.com

Email: sales@avantauk.com

Avanta UK Ltd - Unit B1, Astra Park, Parkside Lane,
Leeds, West Yorkshire, United Kingdom, LS11 5SZ

