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LOWPRO 15/10 TRENCH COVER

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25 Appendix A - USA Engineering approval tabulated data

INTENDED USAGE

A site safety risk assessment (SSRA) must be carried out before installation and use of the product. This product has been designed and tested in the following scenarios using controlled conditions.

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 \cdot Up to 900mm / 35" trench width with the distributed load of a 3.5t / 7,710lb vehicle.

• Up to 1200mm / 48" trench width with pedestrian foot traffic with a maximum weight of 400kg / 880lb.

• The product is installed on a trench with rigid and secure walls, as defined in the SSRA.

• The product is static while in use.

• Slip resistance has been tested in both wet and dry conditions.

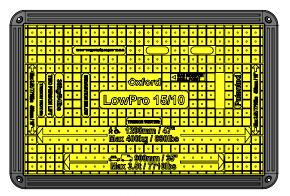
• The product is installed centrally over a trench by experienced operators.

• The product is clean and fully functioning.

SYSTEM OVERVIEW

The LowPro 15/10 Trench Cover is a complete solution in 4 parts: LowPro, metal stillage, accessibility ramps & infill strips.

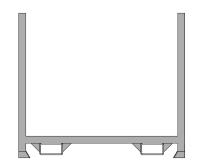
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LowPro 15/10 Trench Cover



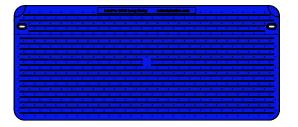
Long Infill



Metal Stillage



Short Infill



Long Ramp



Corner Ramp

Short Ramp

The market-leader in composite trench cover technology

The LowPro 15/10 Driveway Board is Oxford Plastics' composite trench cover, suitable for 3.5t / 7710lb vehicles across a 900mm / 35" trench. LowPro edges grip the asphalt to create a stable platform for vehicles and pedestrians.

Store & transport the LowPro 15/10 System

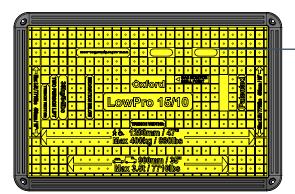
The LowPro Stillage holds 20 LowPro 15/10 Trench Covers. Made of durable galvanised steel, and fitted with forklift pockets to make transport quick and easy.

Ramps & infill strips create an easy-access platform

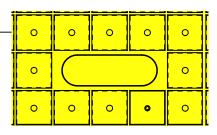
Infill strips are installed between LowPro Trench Covers to connect the boards and prevent drift. The DDA & ADA compliant access ramps have a smooth 1:12 gradient, for a smooth slope for pedestrians and vehicles.

BRANDING AND CUSTOMISATION

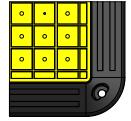
	Standard Colour	Non-standard Colours Available	Embossing
LowPro 15/10 Trench Cover	Yellow	Orange, Red, Blue, Purple & Green	MOQ 60 off
LowPro Infills Long & Short	Black	N/A	N/A
LowPro Ramps Long,	Blue	N/A	N/A
Short & Corner			
LowPro Stillage	Blue	N/A	N/A



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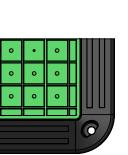


LowPro 15/10 Trench Cover Custom Embossing Area 40 x 125mm

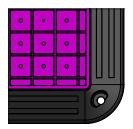


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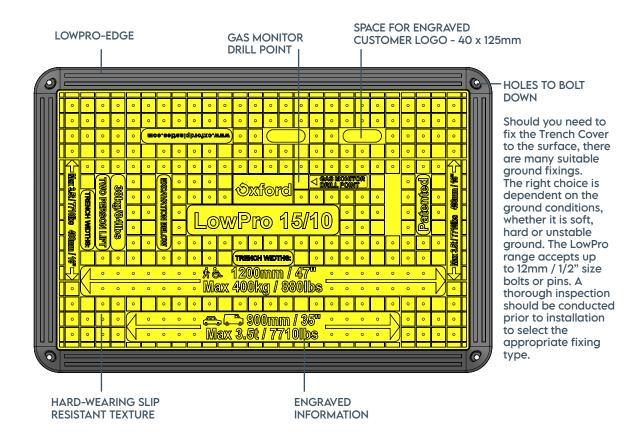




LowPro 15/10 Trench Cover Colour Options - MOQs 150 off

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FEATURES



ROBUST

Advanced composite technology construction, robust and durable.

LowPro-Edge prevents damage to road, reduces noise, and stops board sliding.

Proven to be structurally safe in ambient temperatures of +50°C / 120°F to -30°C / -20°F. LowPro edges are more susceptible to damage in freezing temperatures.

Non-metal construction reduces theft.

SAFE & EASY TO USE

Can be manually handled without the need for heavy lifting equipment.

Integral slip resistant texture.

Quick to install.

Gas monitor drill point. Users can drill this area to allow gas measurements to be taken without removing the trench cover.

EXTRAS

Can be customised with customer logos.

Infill pieces connect covers together to create a flat anti-trip platform.

Linking plates can be supplied to link units for added security.

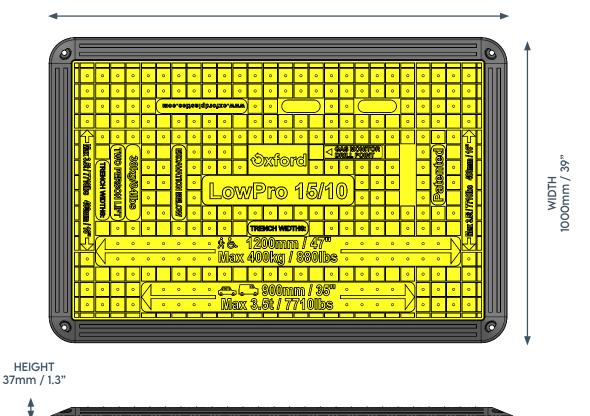
Ramp sections can be supplied to create a gentle slope for wheelchair users & cyclists.

DIMENSIONS AND WEIGHTS

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LOWPRO 15/10 TRENCH COVER 38kg / 84lb

OVERALL LENGTH 1500mm / 59"



Part Name	Product Code
LowPro 15/10 Driveway Board	O815

Oxford Plastics

MATERIAL COMPOSITION AND PRODUCT LIFE

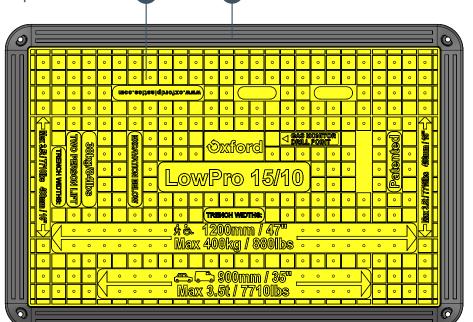
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All elements use materials that if maintained correctly will not structurally degrade in UV light, in the presence of water or salts, and are stable in ambient temperatures from +50°C / +120°F to -30°C / -20°F. LowPro edges are more susceptible to damage in freezing temperatures.

Batches are regularly load tested in the Oxford Plastics test facility as part of the quality control process.

TRACING

Products have a waterproof label with a unique bar code and ID number, enabling tracing to the batch and date of manufacture.



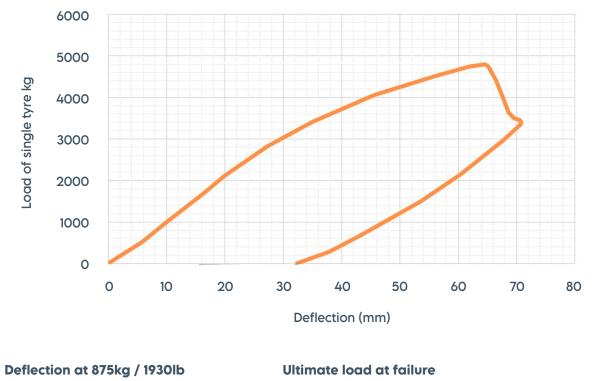
В

	Part Name	Material
Α	Main Body	Glass fibre reinforced polyester resin sheet moulding
		compound + mild steel encapsulated rebar grid
В	LowPro-Edge	PVC

LOWPRO 15/10 TRENCH COVER | TECHNICAL GUIDANCI

LOAD DEFLECTION DATA

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9.0mm / 0.35"

4,800kg / 10,582lb

Destructive testing has been carried out on the product to simulate deflection under the working load, and ultimate failure.

The testing is carried out by trained staff at Oxford Plastics' specialist testing facility.

Tab Data for the USA can be found in Appendix A.

Products are designed and tested to HAUC 2018/01 Advice Note.



PRODUCT RATING

The product is rated for use over spans of maximum 900mm / 36" by vehicles with a GVW of up to

3.5t / 7,700lb

TEST SPECIFICATION

Span 900mm / 36"

Load Footprint 250mm / 9.8" diameter pad with rubber base to simulate single tyre.

Load Location Centre of product. **Oxford Plastics**

PEDESTRIAN ONLY USAGE

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For scenarios where the product will only experience loads of up to 400kg then the maximum span can be increased to 1200mm.

The installer should carry out a risk assessment to ensure the edge of the trench is stable enough. For example, for excavations in concrete, asphalt or compacted soil.

The product must be positioned centrally on the trench.

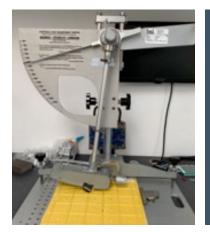
PEDESTRIAN ONLY USE	Metric	Imperial	
Max Span	1200mm	47"	
Max Load	400kg	880lb	

SLIP RESISTANCE

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Slip resistance testing has been carried out by an independent test house, in line with the requirements of UK HSE 2012 document 'Testing the slip resistance of flooring'.

Testing was carried out in 3 directions in wet and dry conditions, using a calibrated Munro slip tester using Slider 55 and Slider 96.



CLASSIFICATIONS

High Slip Potential 0-24

Moderate Slip Potential 25-35

Low Slip Potential 36+

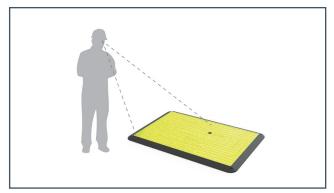
Tests align also with ASTM Standard and AS/NZS Standard.

SLIDER 96 TEST RESULTS - DRY	Median Result	Classification
Parallel to traffic	68	LOW SLIP POTENTIAL
45 degrees to traffic	62	LOW SLIP POTENTIAL
Perpendicular to traffic	55	LOW SLIP POTENTIAL
SLIDER 96 TEST RESULTS - WET		
Parallel to traffic	45	LOW SLIP POTENTIAL
45 degrees to traffic	44	LOW SLIP POTENTIAL
Perpendicular to traffic	40	LOW SLIP POTENTIAL
SLIDER 55 TEST RESULTS - DRY		
Parallel to traffic	67	LOW SLIP POTENTIAL
45 degrees to traffic	69	LOW SLIP POTENTIAL
Perpendicular to traffic	66	LOW SLIP POTENTIAL
SLIDER 55 TEST RESULTS - WET		
Parallel to traffic	46	LOW SLIP POTENTIAL
45 degrees to traffic	39	LOW SLIP POTENTIAL
Perpendicular to traffic	40	LOW SLIP POTENTIAL

Oxford Plastics

INSPECTION AND MAINTENANCE

Care for the product by following the below guidance. This includes but is not limited to:

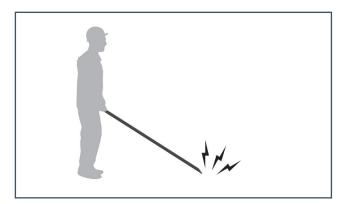


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Inspect each product for signs of damage, between every installation.



Clean product between every installation to remove debris, and to maintain slip resistance properties.



Do not drop the product. Do not lift or move with machinery.

Stack 20 LowPro 15/10s onto a pallet, or 20 in the Stillage, for storage and transportation.

SIGNS OF DAMAGE

Cracks in the yellow section indicate it has been damaged through improper use.

The product should lay flat on the ground. A visibly bent product also indicates it has been damaged through improper use.

This list is not exhaustive.

These products must be disposed of.

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INSTALLATION AND SAFE HANDLING

Risk assessments should be carried out to ensure the usage is suitable for the scenario.

Every trench cover has the facility to be bolted down individually.

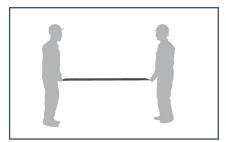
The product is designed to be used in the following scenarios.



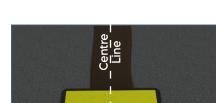
Confirm trench widths suitable: PEDESTRIAN ONLY 1200mm. VEHICLES 900mm.

Assess the trench walls are

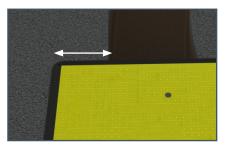
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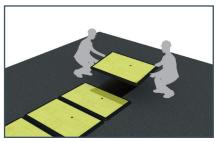
Two person lift at all times.



Position product centrally over trench.



Check there is a minimum overlap PEDESTRIAN ONLY 150mm VEHICLES 300mm Do this for every piece.



Repeat until the entire trench is covered.

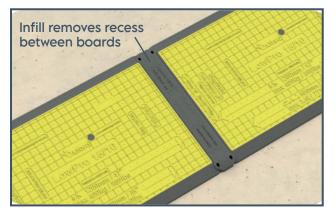
Trench Covers should be bolted down depending on a risk assessment; should you need to fix the Trench Cover to the surface, there are many suitable ground fixings. The right choice is dependent on the ground conditions, whether it is soft, hard or unstable ground. The LowPro range accepts up to 12mm / 1/2" size bolts or pins. A thorough inspection should be conducted prior to installation to select the appropriate fixing type.

INFILLS & LINKING PLATES

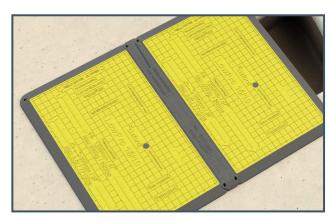
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Infills remove the recess between boards when 2 or more are used.

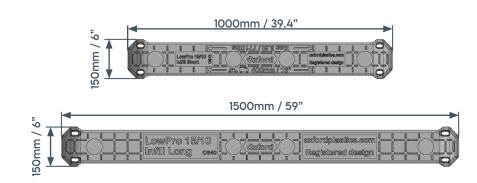
The linking plates connect the Infills, and also link each board together for added safety.

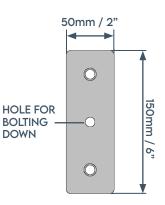


The short Infill is suitable for narrow trenches, where LowPros are installed landscape.



The long Infill is suitable for wider trenches, where LowPros are installed portrait.





Part Name	Product Code	Material
Short Infill	O375	95% HDPE, 5% Elastomer
Long Infill	0840	95% HDPE, 5% Elastomer
Connector Plate	Supplied with the Infill	Zinc plated steel
Connector Plate Bolts	Supplied with the Infill	M10 x 20 hex head flanged bolt with zinc
		yellow coating

INFILL INSTALLATION

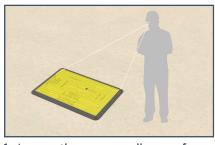
Follow the process below for safe and effective installations.

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Risk assessments should be carried out to ensure the usage is suitable for the scenario.

LowPro Infills are for temporary applications. Infills should be checked for flatness on a routine basis and in the event of significant ambient temperature changes.

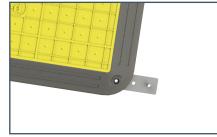
For long-term applications, LowPro Infills should be secured with screws to the LowPro Trench Cover edging every 100mm.



1. Assess the surrounding surface where the LowPro edges will be resting.



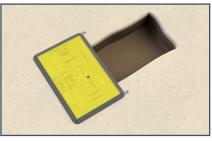
2. Unscrew the plate and bolts at each end of the Infill.



3. Insert the plate underneath the LowPro through the bolt hole.



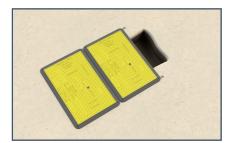
4. Insert the 2nd plate in the bolt hole on the long or short side.



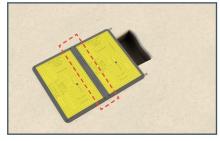
5. Place the LowPro with the plates centred over the width of the trench.



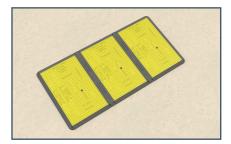
6. Place the next LowPro in line with first over the Infill plate.



7. Ensure the LowPro is sitting on the plate at both ends.



8. Place the Infill between the LowPros & secure with 2 bolts at either end.



9. Continue placing LowPros over the trench & attaching Infills until the trench is fully covered.

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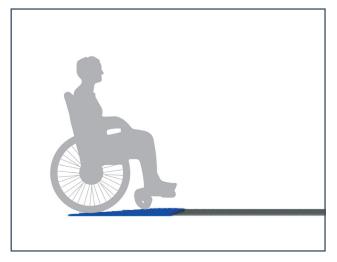
RAMPS

Ramps provide a gentle 1:12 slope for wheelchair users.

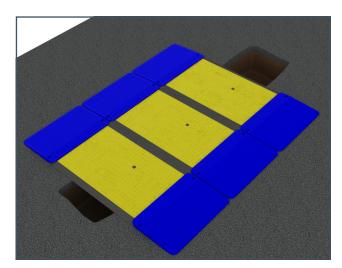
They can be used in conjunction with the Infills and Linking plates.

ADA COMPLIANCE

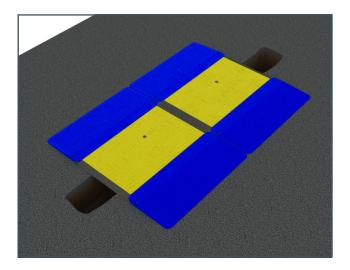
The ramp products have been developed in reference to the 2010 ADA Standards for Accessible Design.



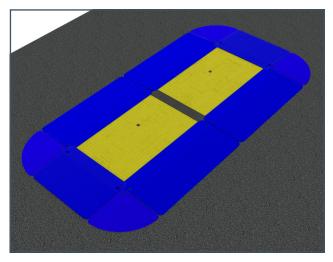
Ramps provide a gentle 1:12 slope.



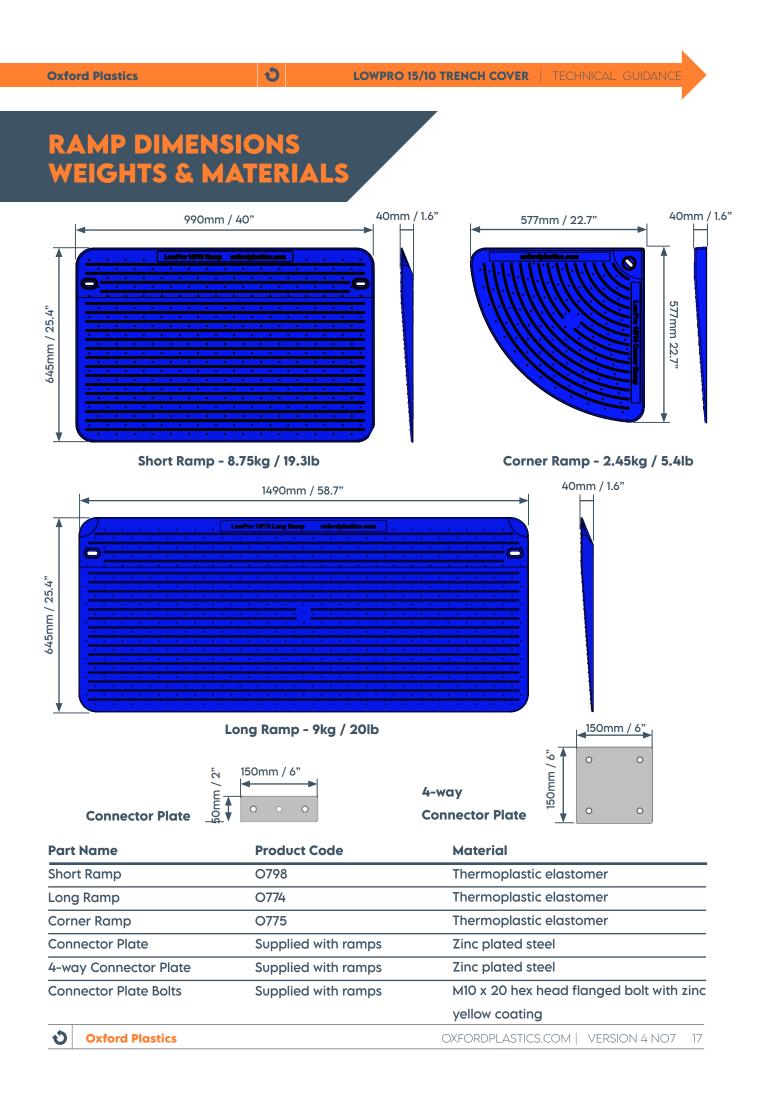
Short Ramps can be used in this scenario, attached to the short sides of the LowPro.



Long Ramps can be used in this scenario, attached to the long sides of the LowPro.



Short Ramps, Long Ramps, and Corner Ramps can be arranged to create a gentle slope on all sides.



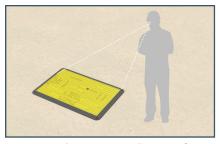
RAMP INSTALLATION

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Follow the process below for safe and effective installations.

Risk assessments should be carried out to ensure the usage is suitable for the scenario.

The Ramps should not be placed over the trench.



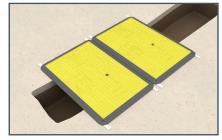
1. Assess the surrounding surface where the LowPro edges will be resting.



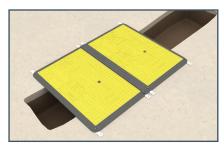
2. Unscrew the plate and bolts at each end of the Infill.



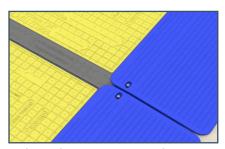
3. Insert the plates underneath the LowPro through the bolt hole.



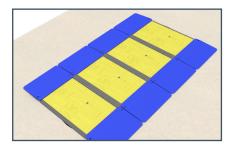
4. Place the LowPros with the plates centred over the width of the trench.



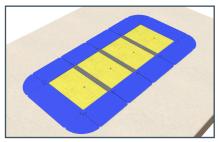
5. Place the Infill between the LowPros, fix Infills with bolts.



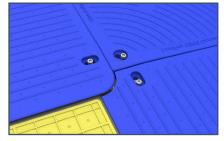
6. Place the Ramps onto the studs on the Plates, and fix Ramps with Bolts.



7. Continue placing LowPros over the trench & attaching Infills until the trench is fully covered.



8. For Ramps on all sides use the 4-Way connector at the corners.



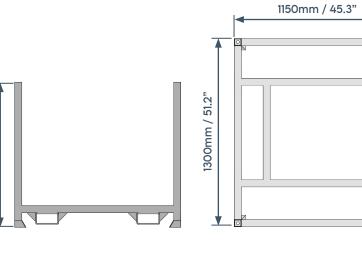
9. For Ramps on all sides the Long Ramp corner must be cut with a knife to fit up against the Short Ramp. A mark on the Ramp shows where to cut.

1000mm / 39.4"

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STILLAGE



FEATURES AND BENEFITS

Stack 20 LowPro 15/10s on a stillage

Stack stillages on top of one another

Comes with forklift pockets

Durable steel material

Galvanised for protection from rust



Stillage shown with 20 LowPro 15/10



2 laden stillages shown stacked

5513
0746
77kg / 169lb
Galvanised
1
20
837kg / 1845lb

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LOWPRO 15/10 TRENCH COVER | TECHNICAL GUIDANCE

ASSOCIATED PRODUCTS

When setting up a street works site, other Oxford Plastics solutions can be used to ensure compliance is achieved. Browse our Chapter 8 solutions; including advanced barrier systems, trench covers, road plates, wheelchair ramps and street works signs.



ADVANCED BARRIER SYSTEMS





PORTABLE GATE BARRIERS STREET WORKS SIGNS



Oxford Plastics

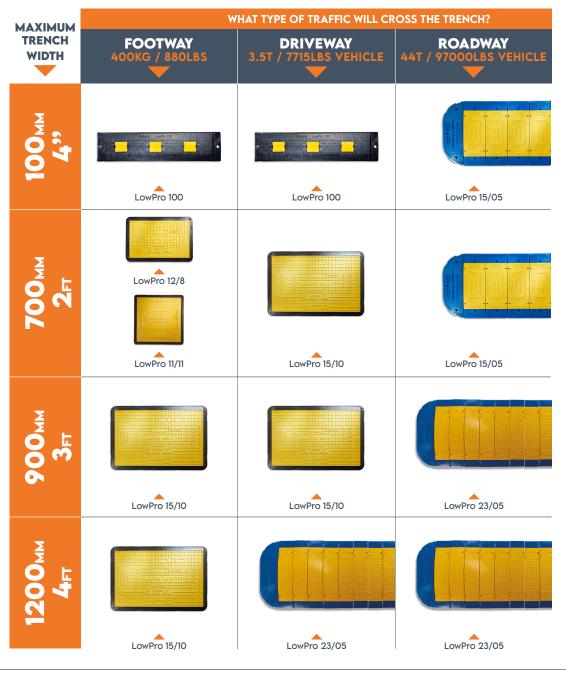
TRENCH COVER GUIDE

COMPOSITE TRENCH COVERS CAN BE INSTALLED IN THE FOLLOWING SCENARIOS.

A Site Safety Risk Assessment must be carried out before installation, only install on compacted surfaces such as concrete or asphalt. Always place the trench cover centrally over the excavation.

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- In some instances, road plates and trench covers must be bolted for safety, refer to the installation guide for more details.
- Trench covers have a maximum width allowance.
- Trench covers can be linked together to safely cover any length of excavation.
- > The LowPro range is HAUC Compliant.
- LowPro 15/05 and LowPro 23/05 are HS20-44 load rated.
- Trench covers must be installed centrally over the trench.



CODE COMPLIANCE

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WHAT IS REGULATORY COMPLIANCE?

UK: The Street Works manual, HAUC 2018/01 advice note, Department for Transport TAL 6/14 and BS7976.

Germany: Entspricht den Vorgaben der RSA21/ZTV-SA 97

USA: HS20-44, AASHTO H25 and HS25 Loading Compliant (LUT to check)

The LowPro 15/10 Trench Cover is compliant with the above regulations for streetworks use.

HISTORY OF USE

C

Our composite Road Plates and Trench Covers have been used extensively:



EUROVIA

Cadent Your Gas Network

Strategic Partnershin

Scottish

later

Water Telecoms Electricity

United

Utilities

Group

Oxford Plastics

nationalgrid AffinityWater

CAPPAGH

B

CONTACT INFORMATION

UK & R.O.W

Oxford Plastic Systems Ltd Unit T2, Enstone Business Park Enstone, Chipping Norton Oxfordshire OX7 4NP United Kingdom

sales@oxfordplastics.com Tel: +44(0)1608 678888

USA

Oxford Plastic Systems LLC 1011 Centre Rd, Suite 312, Wilmington DE 19805 USA

info@oxfordplasticsusa.com 1-800-567-9182 C

APPENDIX A

USA Engineering approval tabulated data See following pages



1325 College Avenue * Santa Rosa, CA 95404 * Phone (707) 528-4503 * Fax (707) 528-4505

E-MAIL TRANSMITTAL COVER SHEET

TO:	David Sardinha/Peter Creighton	FROM:	Hans Vermeulen
COMPANY:	Oxford Plastics	DATE:	5/13/2020
PHONE:	401-497-0821	PAGES:	13 including cover sheet
E-MAIL:	See Below	RE:	15/10 Manufacturers TD Sheet

E-MAILED BY: <u>HV</u> TIME: <u>3:45 pm</u>

MESSAGE:

David.sardinha@oxfordplasticsusa.com; peter.creighton@oxfordplastics.com Job #17682-1

See attached revised tab data sheets.

Mailed copies are available upon request.

Thank you!

C:\MyComputer\FrontOffice\Templates\Fax1

Revision Date: (11/1/97)



15/10 LOW PRO OXFORD DRIVEWAY PLATE TABULATED DATA

36" MAX. CLEAR SPAN TRENCH OPENING (7710 LB TIRE LOAD) OR 48" MAX. CLEAR SPAN TRENCH OPENING (880 LBS PEDESTRIAN LOAD)

OXFORD PLASTIC SYSTEMS LLC 1011 Centre Rd. Suite 312 Wilmington, DE 19805

Design of 15/10 Low Pro Oxford Driveway Plate is based on 880 Lbs. pedestrian load or 7710 Lbs. Traffic Load. The maximum allowable clear span = 48 inches (pedestrian) and 36 inches (traffic). Driveway Plate size is 3'-3" x 4'-11" (990 mm x 1500 mm)



DATE: 04/30/2020 REV: 05/13/2020 DESIGN BY: A.J.V. SHEET NO: 1 of 9 JOB#: 17682-1

1325 COLLEGE AVE. • SANTA ROSA, CA 95404-3909 • (707) 528-4503 FAX (707) 528-4505

J.M. TURNER ENGINEERING , INC. 1325 COLLEGE AVENUE	SUBJECT: Oxfo	rd Plastics USA	SHEET NO.: 2 OF
1325 COLLEGE AVENUE SANTA ROSA, CA 95404	15/10 Driveway	Plate Tabulated Data	ву:АЈV date: <u>05/13/2</u> 0
PH#: (707) 528-4503 FAX#: (707) 528-4505	Road Plat	e Calculations	CHKD BY: DATE:
15/10 Driveway Plate deflection capacity based on	Load Testing (deflection C	riteria): Tire Load	
Ultimate testing Load (Metric Tonnes):	P _{tonnes} := 3.5		
Ultimate Load (kips): Pu	It := P _{tonnes} ·2.2	$P_{ult} = 7.700$	
Span Length (ft): $L := 2.92$ (900mm)		
Allowable Deflection = Dfl _{allow} := 5% of span (in):	2.9205.12		
Dfl _{allow} =	1.75	(45mm)	
Maximum deflection at testing load (mm)	Mdfmax := 35	mm	
Maximum deflection at testing load (In)	Mdfl := $\frac{Mdfma}{25.4}$	ax Mdfl = 1.38	< 1.75 Inches Allowable OK
			Ok for 36" clear span
15/10 Driveway Plate deflection capacity based on I	.oad Testing (deflection C	iteria): Pedestrian Load	
Ultimate testing Load (Kips):	P _{.ult} := 0.880		
Span Length (ft): $L := 3.92$ (1	200mm)		
Allowable Deflection =flatom;= 5% of span (in):	<u>-</u> ∙.05·12		
$Dfl_{allow} = 2$.35 (60mm)	
Maximum deflection at testing load (mm)	Mdfmax = 9.8	mm	
Maximum deflection at testing load (In)	$Mdfl := \frac{Mdfmax}{25.4}$	Mdfl = 0.39	< 2.35 Inches Allowable OK
			Ok for 48" clear span

CONFIDENTIAL

Product Load Test Report Oxford Plastic Systems 15/10 LowPro

Test date: 11/7/2018

Summary

The Oxford Plastics 15/10 LowPro has been tested over a span of 900mm. It was tested in accordance with Highway Authorities & Utilities Committee (HAUC) advice note number 2018/01.

The performance required by the advice note is a maximum deflection of 5% of the span at a working load of 875kg and an ultimate load greater than 1750kg.

A single product was tested which **passed both requirements**. The **deflection at 875kg** was 1% of span (9.0mm) and the **ultimate load was 4800kg**.

Jedco Product Designers Ltd Quadrant House 7-9 Heath Road Weybridge Surrey KT13 8SX info@jedco.co.uk 01932 852497



Introduction

This document reports on the testing of the Oxford Plastics 15/10 LowPro.

Testing has been completed following the requirements specified in the Highway Authorities & Utilities Committee (HAUC) advice note 2018/01.

This advice note also specifies the following performance requirements in section A3.1.

When loaded at the centre, driveway boards should be capable of supporting a working load of 875kg with a deflection of no more than 5% of the maximum allowable span over the design life of the board. The ultimate failure load should not be less than 1750kg.

The 15/10 LowPro is specified for a maximum span of 900mm. Therefore the maximum deflection allowed under a load of 875kg is 45mm.

Product

Oxford Plastic Systems 15/10 LowPro (see Figure 1 below)

Length: 1494mm Width: 995mm Height: 43mm

Weight: 40.75kg

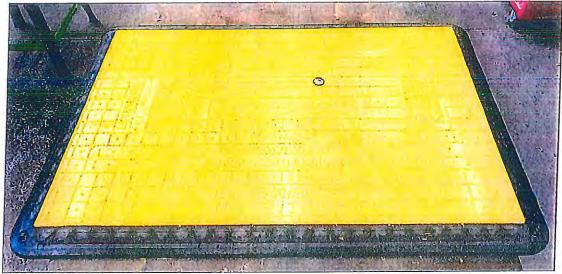


Figure 1: Oxford Plastic Systems 15/10 LowPro



Product Load Test Report – Oxford Plastic Systems 15/10 LowPro /JED 917

Ø Jedco Product Designers / TJW/ July 2018 info@jedco.co.uk

Test Equipment

The testing equipment used is listed below:

Load Cell

PT Global Universal High Accuracy Load Cell

Displacement Sensor – reading from the centre of the underside of the product PiL Ultrasonic distance sensor

Actuator

Power Team 229.5kN double acting hydraulic cylinder

Data logger

Pico Technology ADC-20

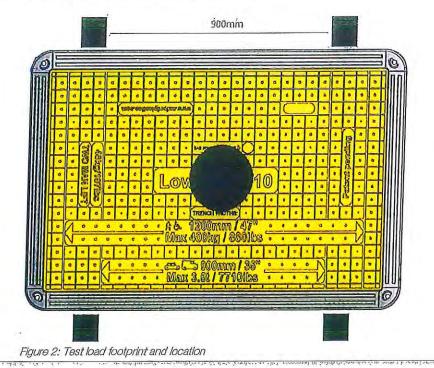
Test Setup

Section A2 of the HAUC advice note requires that product not be fixed and is loaded in the centre with a 250mm diameter load pad.

The supports are unspecified and have been selected to simulate trench sides. The test setup can be seen in the diagram below (Figure 2). The black in the diagram indicates the location of the load pad and the supports.

Span: 900mm

Load pad: 250mm diameter steel plate, cushioned with 8mm PVC Supports: Steel I-beams to simulate trench sides





Product Load Test Report – Oxford Plastic Systems 15/10 LowPro /JED 917

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Testing Process

The load was applied at a rate of approximately 100N/s. Loading was increased until the ultimate load was achieved which defined as when the force decreased over an extended period as deflection increased.

Figure 3 below shows the product at the beginning of the test. An accompanying video of the test is also available.

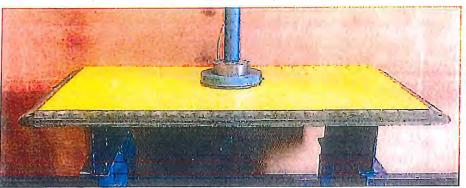


Figure 3: Screen shot just prior to testing

Results

Load and displacement were recorded and graphed. The results are displayed in Figure 4 below.

At a working load of 875kg a deflection of 9.0mm was recorded. This equates to 1% of the span. The ultimate failure load was recorded as 4800kg.



Product Load Test Report - Oxford Plastic Systems 15/10 LowPro /JED 917

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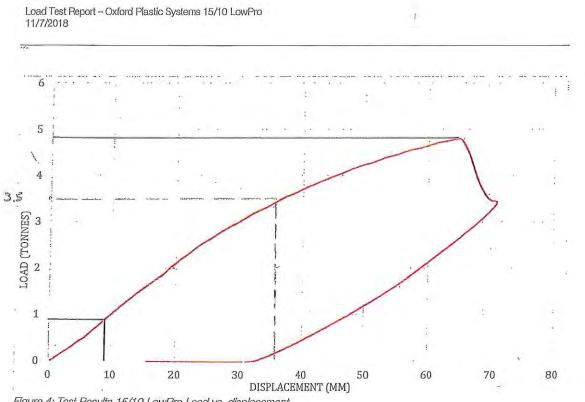
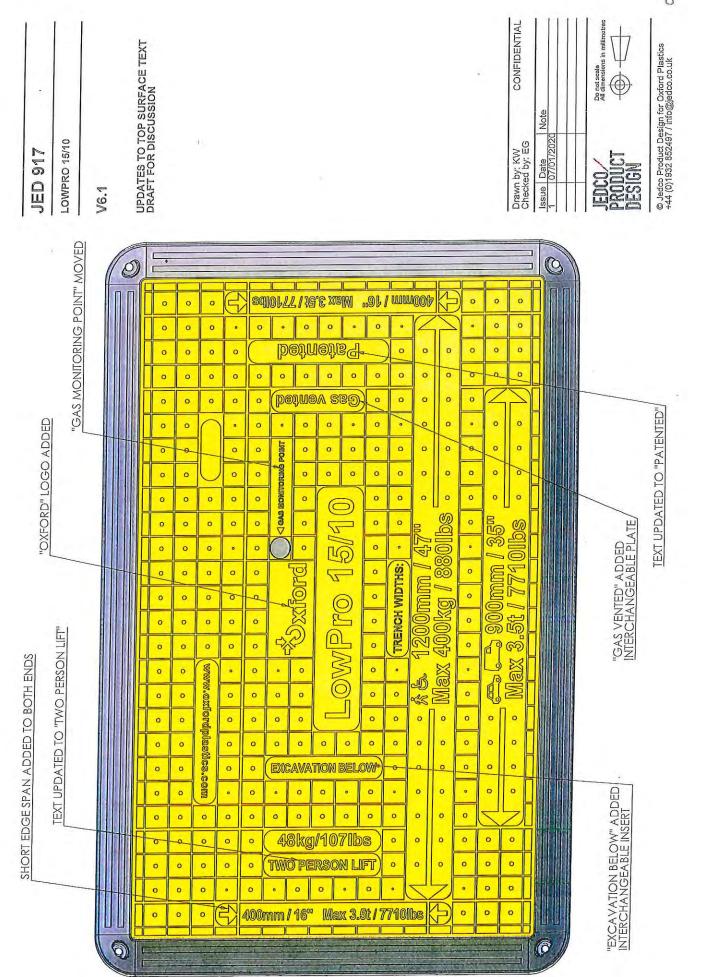


Figure 4: Test Results 15/10 LowPro Load vs. displacement



Product Load Test Report – Oxford Plastic Systems 15/10 LowPro /JED 917 . 7

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Load Test Report – 1510 LowPro 0063868 – 1200mm Span Oxford Plastic Systems (47")

11/03/20

Product Details: Product type: 1510 LowPro (ID 0063868) SMC: Menzolit 0390-5317-1023, from production Rebar: 10mm steel Product Weight: 38,80kg (including PVC moulding)

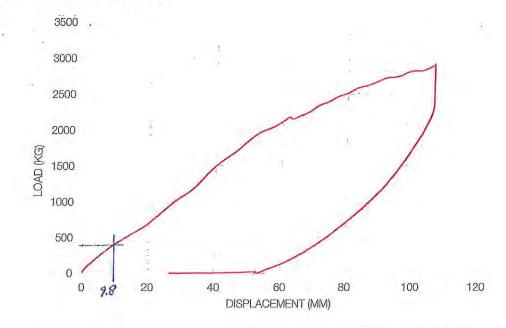
Testing Setup Test Span: 1205mm Load footprint: 250mm diameter Load location: centre Temperature of sample/Temperature of load cell: 8°C/8°C

Testing Process Load type: Ultimate load testing Load rate: approximately 250N/s

Performance Requirements – Pedestrian Load Deflection at 400kg: <60mm Ultimate load: >800kg (Derived according to HAUC Advice Note No. 2018/01)

Results

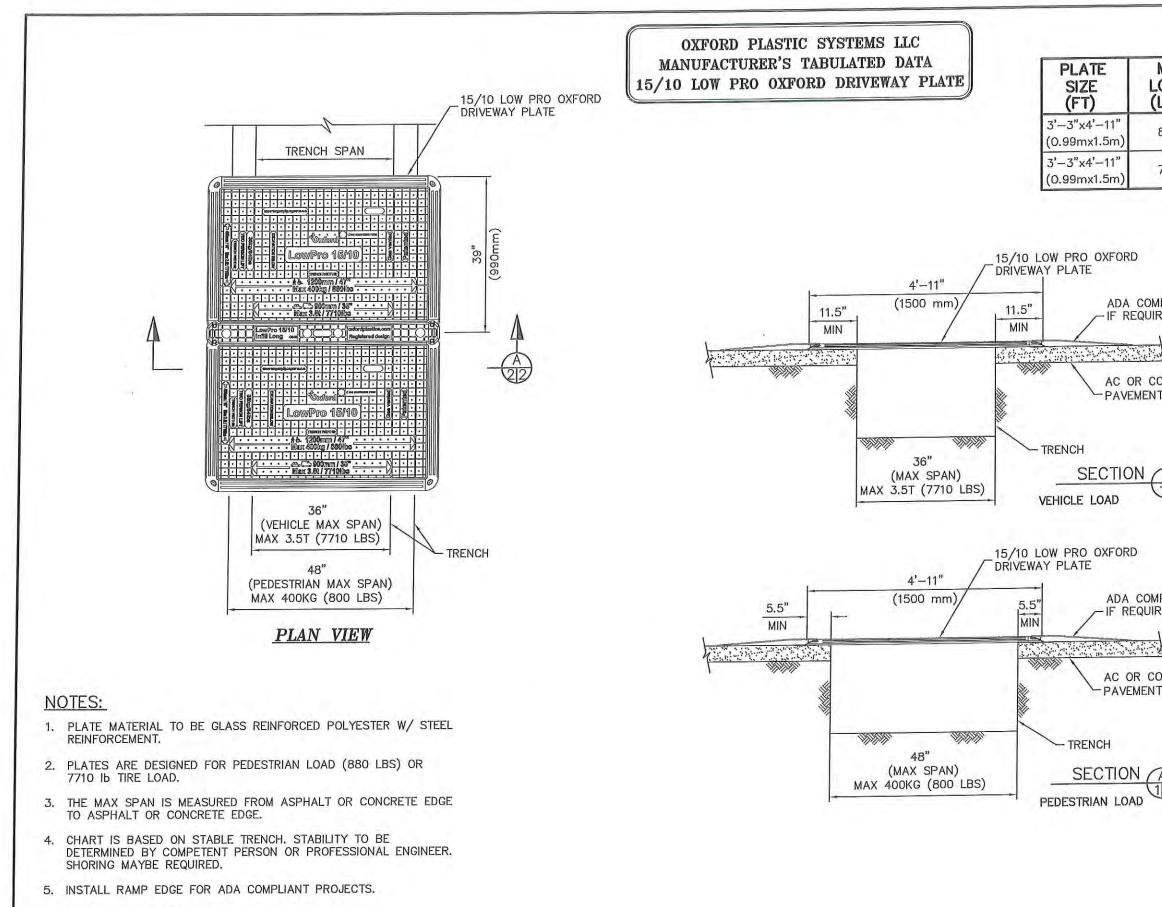
Deflection at 400kg: 9.8mm PASS Ultimate load: 2900kg PASS





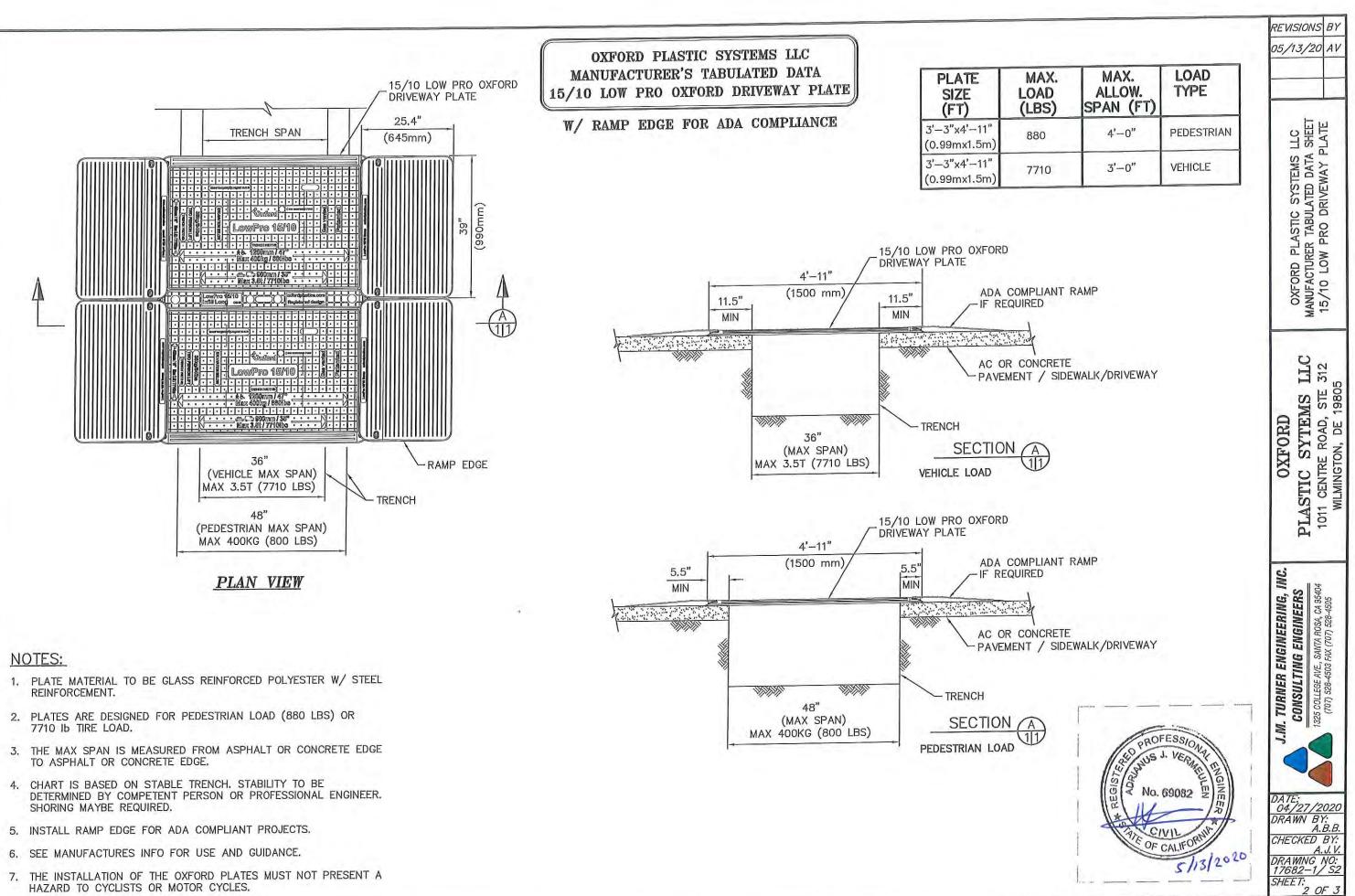
Load Test Report 0063868 - Oxford Plastic Systems/JED TESTING

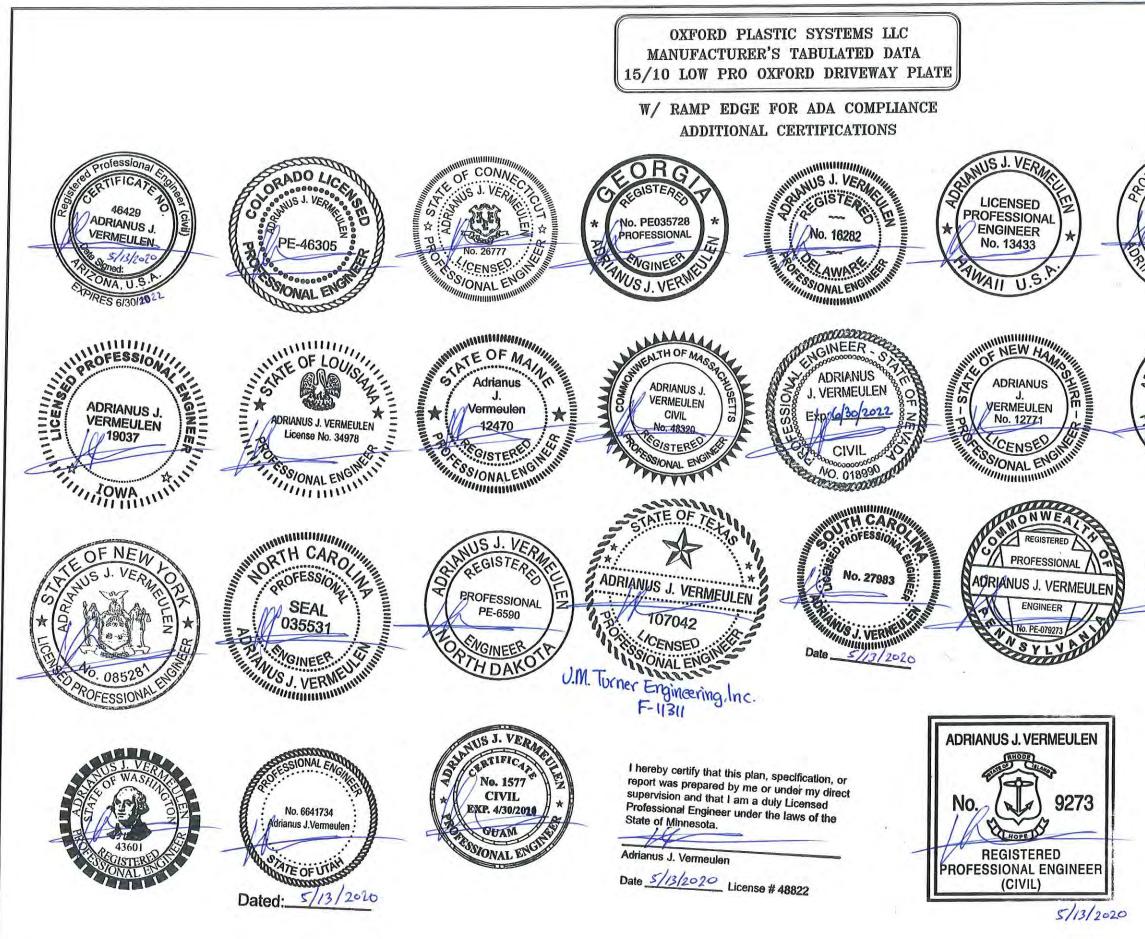
Iedco Product Designers / TJW/ March 2020 info@jedco.co.uk 01932 852497



- 6. SEE MANUFACTURES INFO FOR USE AND GUIDANCE.
- 7. THE INSTALLATION OF THE OXFORD PLATES MUST NOT PRESENT A HAZARD TO CYCLISTS OR MOTOR CYCLES.

			REVISIONS BY
			05/13/20 AV
MAX. OAD LBS)	MAX. ALLOW. SPAN (FT)	load Type	
880	4'-0"	PEDESTRIAN	LATE LATE
7710	3'-0"	VEHICLE	STEMS DATA WAY P
IPLIANT I RED	RAMP		OXFORD PLASTIC SYSTEMS LLC MANUFACTURER TABULATED DATA SHEET 15/10 LOW PRO DRIVEWAY PLATE
A DNCRETE T / SIDE	WALK/DRIVEWAY		OXFORD PLASTIC SYTEMS LLC 1011 CENTRE ROAD, STE 312 WILMINGTON, DE 19805
IPLIANT I RED DNCRETE T / SIDE	RAMP WALK/DRIVEWAY		J.M. TURNER ENGINEERING, INC. CONSULTING ENGINEERS 1325 COLLEGE AVE., SAVITA ROSA, CA 95404 (707) 528-4503 FAX (707) 528-4505
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A WARY 1.28 W	J.M. TURNER ENGINEERING, INC. CONSULTING ENGINEERS 1325 COLLEGE AVE., SAMTA ROSA, CA 95404 (TOT) 528-4503 FAX (TOT) 528-4505
	DATE: 04/27/2020 DRAWN BY: A.B.B. CHECKED BY: A.J.V. DRAWING NO: 17682-1/S3 SHEET: 3 OF 3