

The Bitumen Discharge Permit

This Eurobitume Toolbox Talk was developed with specific focus on bitumen delivery procedures in the UK.

Introduction

The Bitumen Discharge Permit (BDP)

- What is the BDP?
- What is the purpose of the BDP?
- How do you use the BDP?
- The BDP includes the Authority to Discharge (ATD) form.
- What the customer representative needs to do.
- What the delivery driver needs to do.
- Completing the BDP.



BITUMEN DISCHARGE PERMIT (BDP)

TOP COPY: Retain on site
DUPLICATE: Hand to delivery driver

Company Name.....
Site Name/Location.....
Plant Description.....
Delivery Company.....

Tank number	A	
Flange number/description	B	
Grade	C	
Safe working capacity, tonnes	D	
Current contents, tonnes	E	
ULLAGE: useable capacity, tonnes	F	
Quantity to be delivered, tonnes	G	
Is the bitumen temp. within the acceptable range for this grade ?	H	
Delivery ticket number	I	
Date	J	

← From tank contents gauge
← F = D minus E

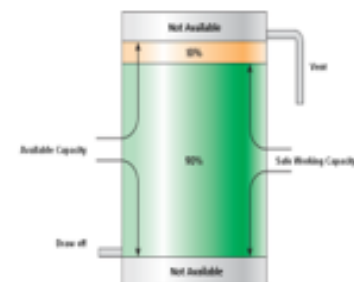


Diagram above is appropriate for both horizontal and vertical tanks



PLANT OPERATOR / SUPERVISOR (Person issuing this BDP) Please confirm the following prior to commencement of delivery/offloading		✓ or X
All boxes A-J completed with correct values and details		
Verification that HLA, HHLA and tank gauge are functioning via test button or weekly test		
Emergency shower tested and is functional on delivery day		
Figure in box F is GREATER than the amount to be delivered (box G)		
Is there the need to discharge part of the load into another tank? (Yes or No)		
If 'yes' to above question, complete the table opposite. Note - a 2 nd BDP must be completed		
Have any modifications or repairs been made to the plant since the last delivery? (Yes or No)		
Has the driver's passport been checked and verified that it is valid? (Yes or No)		
Is the site induction in date for this driver? (Yes or No)		
If 'X' is in any box (above or below) do not proceed with delivery. Seek advice from site management and driver's supervisor.		
DELIVERY DRIVER (Person receiving this BDP) Please confirm the following prior to commencement of delivery/offloading		✓ or X
Key (identification) issued matches tank/flange details in boxes A and/or B		
Tank flange and transporter's equipment visually OK for safe connection and delivery		
Grade to be discharged matches the grade in box C		
Figure in box G equates to the delivery ticket amount		
Figure in box E is the same as the contents gauge reading on the receiving tank. Place 'X' if there is no gauge or it is unreadable		
Received confirmation that the emergency shower has been checked and is working		
Driver confirms the packing is clean and the flange connection is correct prior to discharge		
Plant Operator/Supervisor Name:	Signature:	
Delivery Driver's Name:	Signature:	

If the delivery is stopped complete the table below

Reason for stopping the delivery (Driver to tick as required)					
Spillage		High Level Alarm		Split Load	
Seen	Informed	Visual	Noise	On Arrival	During Delivery
Driver's comments:					
Action Taken (Customer to tick only one box)					
Wait for ullage		Split load		Return product	
Customer's comments:					

One of these BDP forms to be completed for every delivery, two or more if the load has to be split

What is the Bitumen Discharge Permit?

- The BDP is a PERMIT TO WORK.
- It was developed jointly by the MPA and Eurobitume UK.
- The BDP was developed and implemented to address overfilling of bitumen storage tanks and crossover of product.
- It is a critical control document to enforce and document pre-delivery checks.
- It is designed to facilitate communication between plant personnel and the delivery driver.

What is the purpose of the BDP?

Its purpose is to confirm/ensure that:

- The grade and quantity of product are correct.
- The product goes into the correct storage tank.
- There is sufficient ullage to receive delivery.
- If there is a need to split the load.
- To check that the tank content gauges, alarms and emergency shower are functioning.
- If any modifications have been made to the plant since the last delivery.
- The storage tank flange is visually OK to make the connection.
- The flange connection is correct prior to starting the discharge.
- The driver has a current Eurobitume UK Drivers Passport.
- The driver's site induction is in date.

How to use the BDP

- If used correctly, the BDP will eliminate the risk of overfilling the storage tank and product cross-over.
- Promotes a dialogue with driver, checking of the storage tank information and the driver documentation prior to the delivery.
- Provides an audit trail for each bitumen delivery.
- The BDP should be completed by both the delivery driver and an appropriate site representative.
- The BDP should NOT be completed prior to the delivery but at the delivery point immediately prior to the delivery.
- If the delivery is split:
 - A new BDP MUST be completed for each delivery and
 - the ATD form on the BDP completed for the split load.

What the customer needs to do

It is the responsibility of the customer's representative to:

- Authorise each delivery.
- Confirm that the grade and quantity being delivered are correct, as stated on the driver's delivery documentation.
- Ensure that there is sufficient tank ullage.
- Determine if a split load is required.
- Confirm that the driver has connected to the appropriate tank receiving flange for the delivery and that the lines and valves are routed to correct tanks.
- Confirm that the contents gauges, high level alarms and emergency shower are working and report this to the driver.

What the bitumen delivery driver needs to do

It is the responsibility of the driver to:

- Ensure that the flange lock keys match the flange details on the BDP.
- Check that the storage tank flange is visually satisfactory to connect to.
- Confirm that the grade and quantity being delivered are correct, as stated on the driver's delivery documentation.
- Check that the storage tank contents gauge reading is the same as on the BDP.
- Receive confirmation from the customer that the contents gauges, high level alarms and emergency shower are working.
- Confirm the packing is clean and check the flange connection is correct prior to discharge.

The Authority to Discharge (ATD) form

If the delivery is stopped, for any reason, the driver and customers representative **MUST** complete the ATD table on the BDP:

- The driver will complete the reason for stopping the delivery; a bitumen spill; activation of a high level alarm or splitting the delivery.
- The customer will complete the action taken; waiting for ullage; splitting the load or returning the product.

Completing the BDP – Driver and Plant Operator

Tank number	A	
Flange number/description	B	
Grade	C	
Safe working capacity, tonnes	D	
Current contents, tonnes	E	
ULLAGE: useable capacity, tonnes	F	
Quantity to be delivered, tonnes	G	
Is the bitumen temp. within the acceptable range for this grade ?	H	
Delivery ticket number	I	
Date	J	

← From tank contents gauge
 ← $F = D \text{ minus } E$
 ← From delivery ticket

THE BDP IS A CRITICAL LAYER OF PROTECTION AND MUST BE COMPLETED WITH CARE

- Confirm the grade, volume and storage tank ullage to ensure the delivery will fit in the tank.
- **Jointly completed** by the driver and the plant operator or **initially** completed by the plant operator **and checked** by the driver.
- Ensure that the figure G is less than the figure F.
This step is critical in the process.
- There are many examples of where the process has failed at this stage.

Completing the BDP – Delivery driver

DELIVERY DRIVER (Person receiving this BDP)		✓ or X
Please confirm the following prior to commencement of delivery/offloading		
Key (identification) issued matches tank/flange details in boxes A and/or B		
Tank flange and transporter's equipment visually OK for safe connection and delivery		
Grade to be discharged matches the grade in box C		
Figure in box G equates to the delivery ticket amount		
Figure in box E is the same as the contents gauge reading on the receiving tank. Place 'X' if there is no gauge or it is unreadable		
Received confirmation that the emergency shower has been checked and is working		
Driver confirms the packing is clean and the flange connection is correct prior to discharge		
Plant Operator/Supervisor Name:	Signature	
Delivery Driver's Name:	Signature	

- This section of the BDP is the responsibility of the delivery driver and **must be completed at the delivery point.**
- Assist the driver complete the BDP.
- Ensures the driver is connected to the correct delivery flange and confirms the ullage calculations.
- Ensure the driver is happy with the flange connection **before** signing.
- No opportunity for recovery if the flange connection is not tight and leaking.

Completing the BDP –Plant Operator

PLANT OPERATOR / SUPERVISOR (Person issuing this BDP) Please confirm the following prior to commencement of delivery/offloading	✓ or X
All boxes A-J completed with correct values and details	
Verification that HLA, HHLA and tank gauge are functioning via test button or weekly test	
Emergency shower tested and is functional on delivery day	
Figure in box F is GREATER than the amount to be delivered (box G)	
Is there the need to discharge part of the load into another tank? (Yes or No)	
If 'yes' to above question, complete the table opposite. Note - a 2 nd BDP must be completed	
Have any modifications or repairs been made to the plant since the last delivery? (Yes or No)	
Has the driver's passport been checked and verified that it is valid? (Yes or No)	
Is the site induction in date for this driver? (Yes or No)	
If 'X' is in any box (above or below) do not proceed with delivery. Seek advice from site management and driver's supervisor.	

- This section of the BDP is the responsibility of the plant operator.
- Carry out the checks before ticking the box.
- The driver's passport is the evidence that the driver has been trained and approved to deliver bitumen.
No passport means no delivery.
- Do not short cut the site induction ... this is very important.
- If the delivery has to be split, be absolutely clear with the driver 'how and why'.

**COMPLETING THE BDP IS NOT A
TICK BOX EXERCISE**

Completing the BDP – Driver and Plant Operative

If the delivery is stopped complete the table below

Reason for stopping the delivery (Driver to tick as required)					
Spillage		High Level Alarm		Split Load	
Seen	Informed	Visual	Noise	On Arrival	During Delivery
Driver's comments:					
Action Taken (Customer to tick only one box)					
Wait for ullage		Split load		Return product	
Customer's comments:					

- If there is a need to stop delivery and restart (into the same storage tank or another storage tank) an Authority to Discharge (ATD) must be completed.
- Effectively this is a new delivery and so a new BDP form must also be completed to ensure the same controls are in place.
- If an alarm activates, **there has been a loss of control**. Do **NOT** continue discharging into the same storage tank without further investigation.
- Record the details of why the discharge was stopped and actions taken.

Bitumen Safety Documents

Guidance documents on a range of bitumen safety related subjects can be downloaded free from the Eurobitume website:

- UK Version of the 2018 Guide to Safe Delivery of Bitumen
- Safety Showers
- Eurobitume Bitumen Burns Card
- Safety Footwear Risk Assessment for Bitumen Delivery Drivers
- Guidance for the Design and Operation of Ground Based Pumps
- Guidance for Bitumen Deliveries into new storage tanks or tanks being returned to Service

See also the Energy Institute Model Code of Safe Practice Part 11: Bitumen Safety Code

<https://www.eurobitume.eu>

Bitumen Safety Documents

The following toolbox talks can be downloaded free from the Eurobitume website:

- Bitumen Delivery Driver Induction
- Personal Protective Equipment
- Emergency Safety Showers
- Content Gauges and High Level Alarms
- Ground Based Pumps
- Blocked/Partially Blocked Pipelines
- Trace Heating of Bitumen Pipelines
- Emergency Shutdown of Bitumen Delivery Vehicles
- 'Pocket' Guide to the Safe Delivery of Bitumen

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