

Umat – Seabed Mattress System

TS Umat – Temporary Seabed Support Mattress

Doc. No.: IN-UDE-180-DS-021, Rev. 01

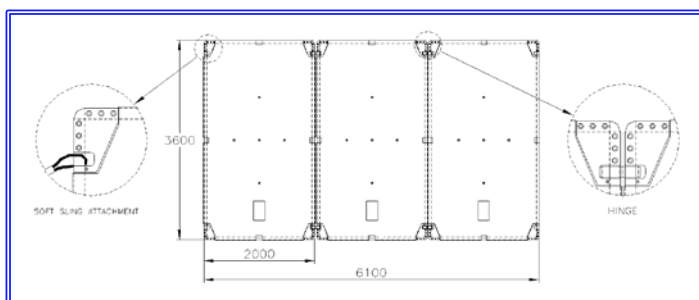
The **TS Umat**, Subsea Temporary Seabed Support Mattress, that was developed in 2003, is part of the Umat Seabed Mattress System that includes a number of different type and size, single or multi segment, high strength, seabed support and foundation mattresses that suit a wide range of subsea applications and / or conditions, including soft seabed.



Construction

- Made from SHS profiles, plates, high strength tear, and wear resistant fabric. All bolted together to form an Umat unit.
- TS Umat single segment size is 2m x 3.6m. The weight is 50 Kg in water (70kg in air).
- Up to five TS Umat segments can be hinged together to form one TS Umat assembly.
- A number of configuration options are available including inclusion of additional stiffeners, optional hinging direction and optional sizes ([see page 2](#)).
- Standard sizes / weights:

TS - Umat Configuration	Length (m)	Width (m)	Height (m)	Dry Wgt. (kg)	Seawater Wgt. (kg)	Seabed Wgt. (kg /Sq. m.)
1 - Segment	2.0	3.6	0.08	70	52	7,2
2 - Segment	4.1	3.6	0.08	142	106	7.2
3 - Segment	6.1	3.6	0.08	214	160	7.3
4 - Segment	8.2	3.6	0.08	286	214	7.3
5 - Segment	10.2	3.6	0.08	358	268	7.3



Application & Features

- Lightweight high load capacity, soft and hard seabed, temporary support mattress for flowline and umbilical termination heads, connectors, PLR's, UTA, SUT, tooling, diver operations, dredgers, and other seabed landed equipment (**the most commonly used Umat mattress**).
- Lightweight construction that is easy and fast to handle, install and recover without the use of lift spreader.
- Requires minimal deck space. Can be transported and stored in vertical position.
- Re-useable after recovery.
- Deployed without use of lift spreader.
- Can be positioned / repositioned on the seabed by a Workclass ROV (e.g. lay down target box can be installed, positioned and/or re-positioned during lay down operation). As an option, the Umats can be delivered with Ufists for ROV handling.
- Prevent equipment from sinking into the seabed.
- Eliminates any seabed suction effects.
- The Umat fabric permits water to penetrate. There is no penetration of sand and silt (i.e. compaction of underlying seabed/soil during loading).
- If required, delivered with deployment rigging installed on the Umat assembly. The rigging is either for a direct lift (1 and 2 segment), or for deployment as a folded unit (3-5 segment). For the latter the ROV releases the rigging, and the mats are unfolded on the seabed.
- Delivered wrapped in plastic placed on purpose made wooden pallet for forklift handling (10 mats on each pallet / 15 mats on a heavy-duty pallet). In case of export, the wood material will be ISPM 15 certified.



Contacts

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TS UMAT STANDARD SIZES AND CONFIGURATION

OPTIONAL SIZES AND CONFIGURATION

OPTIONAL OTHER EQUIPMENT

TRANSPORT/SHIPMENT

DO NOT SCALE IF IN DOUBT ASK

NOTES:

- OPTIONAL FABRIC CLOSING BETWEEN UMAT SEGMENTS FOR MAXIMUM EQUIPMENT INGRESS PROTECTION. TYPICAL GAP/OPENING IS 30MM.
- OPTIONAL HIGH FRICTION TREATMENT OF UMAT FABRIC ON ONE SIDE.
- OPTIONAL STIFFENER. POSITIONED ON THE UNDERSIDE OF UMAT WHEN LANDED/ LAID ON THE SEABED.
- OPTIONAL STIFFENER POCKET SEWED INTO THE FABRIC.
- OPTIONAL UMAT LIFT RIGGING. RECOMMENDED INSTALLATION RIGGING SHOWN. SLINGS AT MASTER LINK TO BE SECURED TO EACH OTHER WITH TIE-WRAPS / DUCT TAPE. SOFT SLINGS ARE DUCT TAPED EVERY 0.5M.
- RECOMMENDED DEPLOYMENT CONFIGURATION;
 - 1 & 2 SEGMENT TS UMAT: UNFOLDED
 - 3, 4 & 5 SEGMENT TS UMAT: FLAT-PACK
- OPTIONAL PENNANT ASSY. WITH MASTER LINK AND ROV HOOK FOR TS UMAT INSTALLATION / RETRIEVAL.
- OPTIONAL DEPLOYMENT WEIGHT ASSY. WITH UBAG (100KG OR MORE). RECOVERED TOGETHER WITH THE PENNANT WIRE. INCLUDES 1T WEBBING SLING, 2 x 4.75T SHACKLES, USTRAP ROV RELEASE LOCK, UFIST AND A 25MM WIDE / 1M LONG WEBBING LOOP.
- OPTIONAL UFIST AND/OR UFLOAT BUOYANCY FOR RIGGING RE-ATTACHMENT (10KG OR 20KG UPLIFT).
- OPTIONAL UFISTS FOR ROV HANDLING OF UMAT. ALTERNATIVE UFIST LOCATIONS ARE IN THE CORNERS.
- OPTIONAL UBAGS (50KG OR 75KG) AND USTRAP RIGGING FOR POSITIONING / UNFOLDING ON THE SEABED.
- PACKED PALLET HEIGHT: $H = 27 + 7.6 \times N$ (CM)
N = NUMBER OF MATTRESS SEGMENTS.
- THE 'CRATE' IS A PALLET WITH A WOOD FRAME THAT PERMIT OTHER CARGO TO BE STACKED ON TOP OF THE FRAME / 'CRATE'.

TS UMAT WEIGHTS - STANDARD CONFIG.

SEGMENT QUANTITY	DRY WGT. KG	SEAWATER WGT. KG	SEABED WGT. KG/ SQ. M
1	70	52	7,2
2	142	106	7,2
3	214	160	7,3
4	286	214	7,3
5	358	268	7,3

Rev	Date	Revision	Rev By	Chk'd Engr.	App Project
2	02.01.17	RE-ISSUED FOR INFORMATION			HAS
1	03.06.16	ISSUED FOR INFORMATION			HAS

Name of client

Underwater Design & Equipment Company

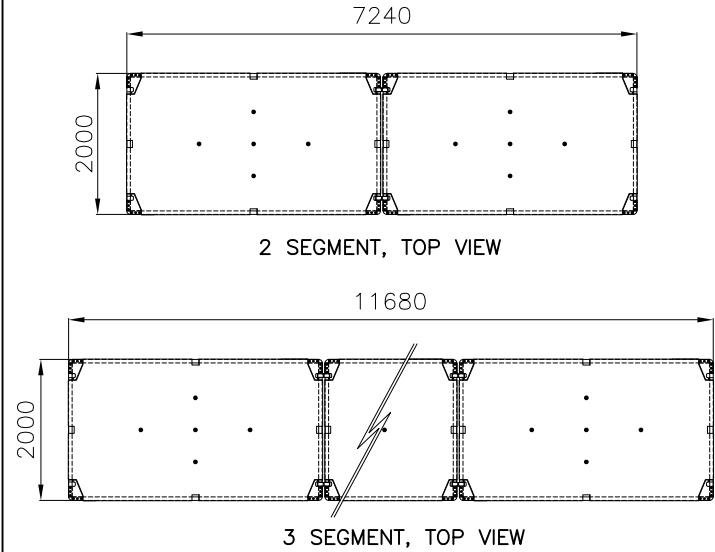
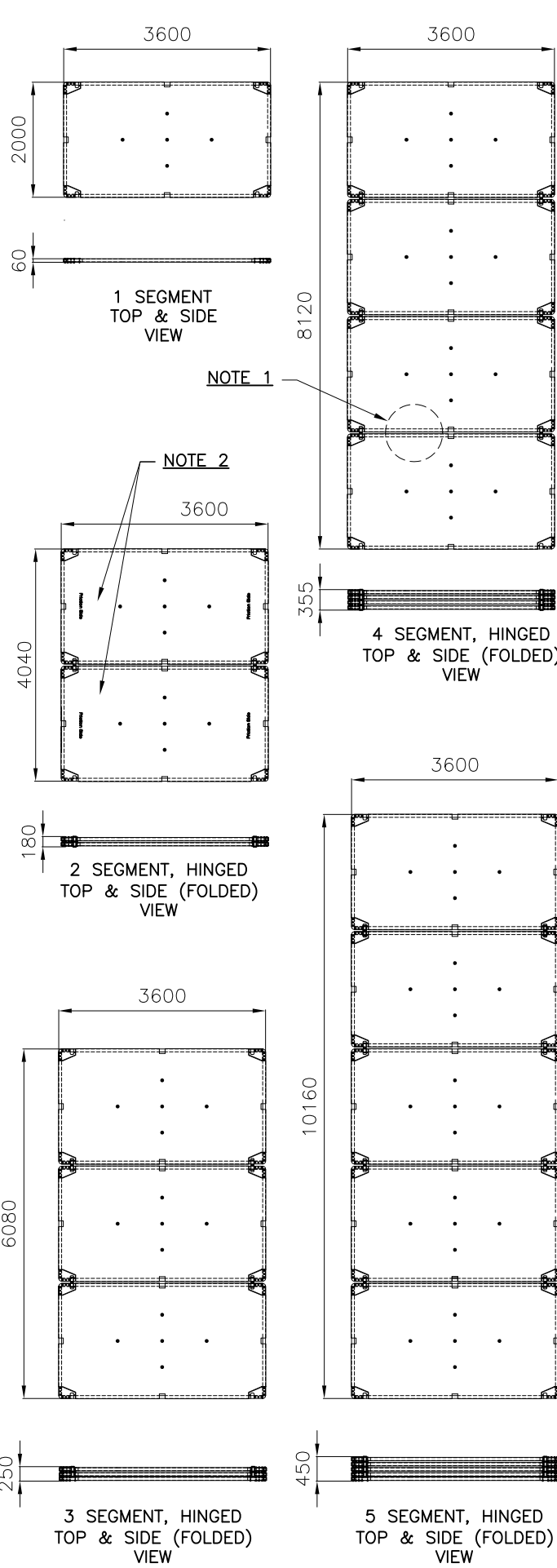
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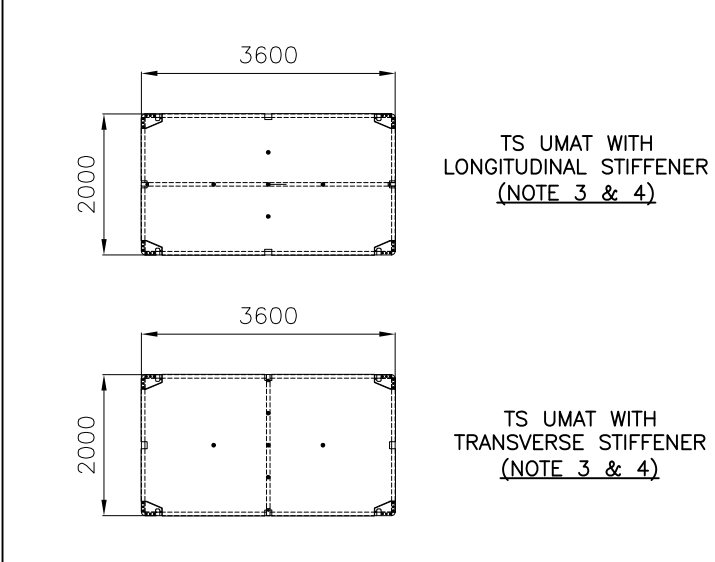
Udeco Engineering			Udeco Approval		
Draughtsman	Checker	Originator/Engineer	Lead Engineer	Project Manager	
H.ASKELAND					
Date	Date	Date	Date	Date	
03.06.16					
UNLESS OTHERWISE SPECIFIED: (HMS INKE ANNET ER OPPGIT)		Dim. Tol: ± 3mm, ± 1'	Broken Edges: (Kanter er brukket) (R alt 45°) 0.1 - 0.5		
Thread Tol: (Gjenge Tol) 6g/6h (NS 1874-ISO 9651)		Roughn: (Ruhet) Ra µm:	Tolerancing: ISO 8015 Tolerance Setting: NS-ISO 8015		
Sheet Size	A1	Drawing Scale.	Page 1 OF 1		

Project: UMAT SEABED MATTRESS SYSTEM
Title: TS UMAT, TEMPORARY SUBSEA SEABED SUPPORT MATTRESS, STANDARD AND OPTIONAL CONFIGURATION

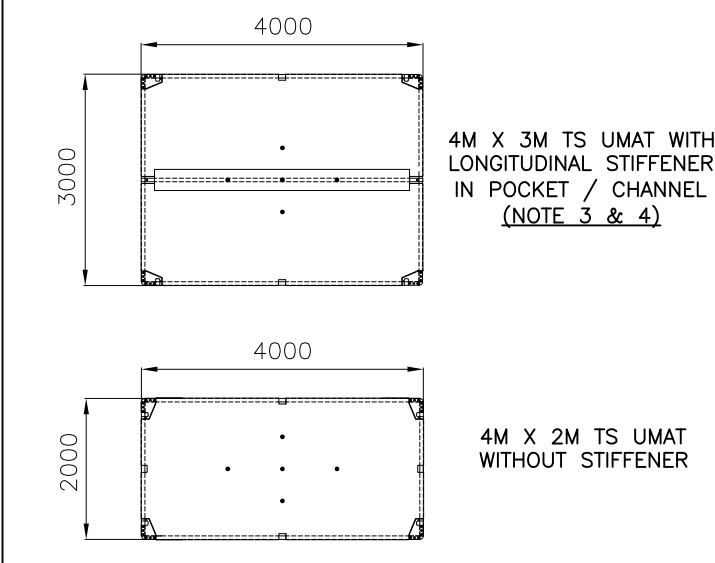
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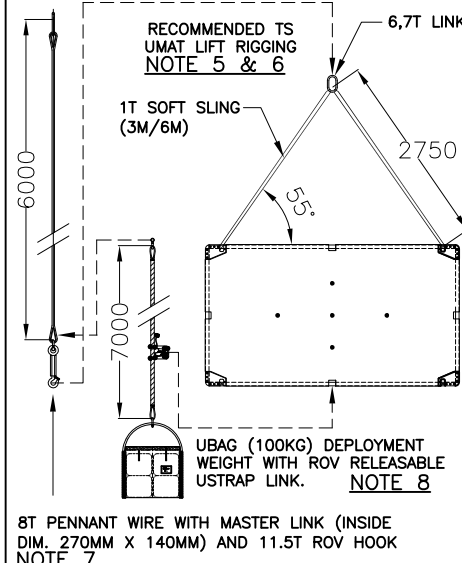
OPTIONAL HINGE CONFIGURATION (2 & 3 SEGMENT ONLY)



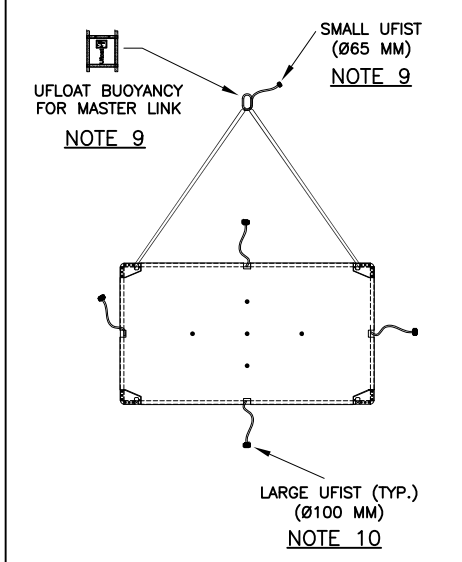
OPTIONAL STIFFENER



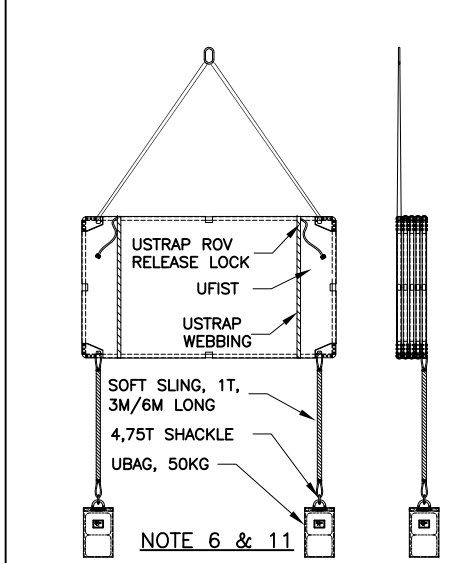
OPTIONAL NON-STANDARD SIZES WITH OR WITHOUT STIFFENER (SIZES ON REQUEST)



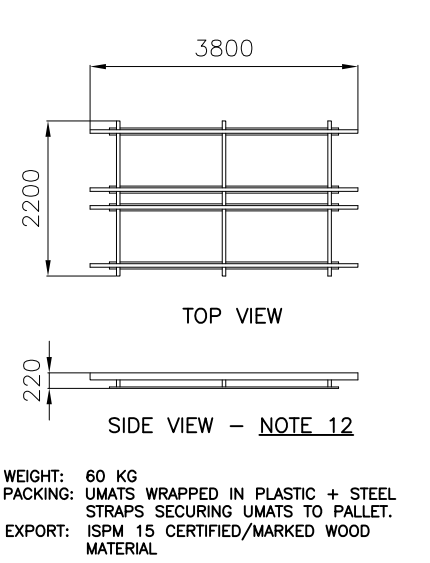
OPTIONAL LIFT RIGGING, WEIGHT AND/OR PENNANT (1-5 SEG.)



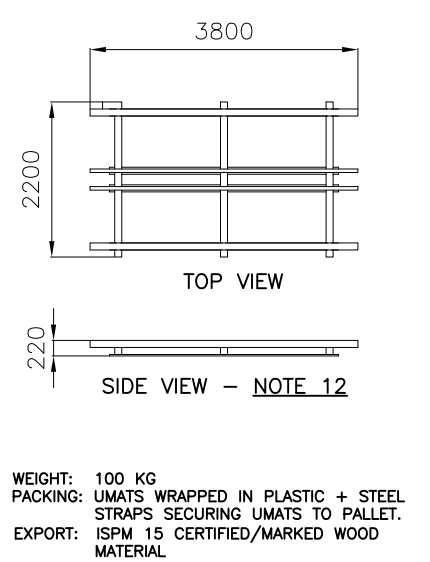
OPTIONAL UFISTS AND/OR UFLOAT BUOY



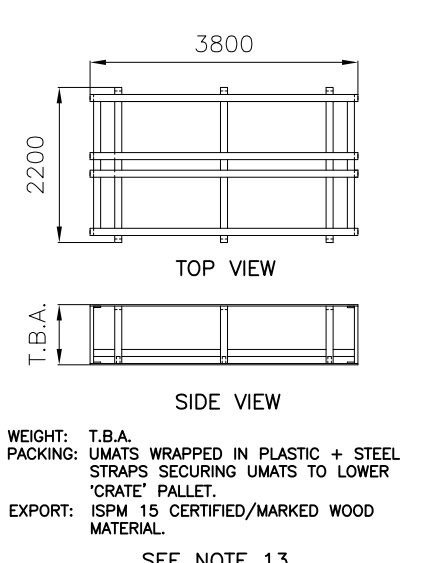
OPTIONAL FLAT-PACK RIGGING (WITH OR W/O UBAG)



STANDARD PALLET (1-10 TS UMAT SEGMENTS)



HEAVY DUTY PALLET (1-15 TS UMAT SEGMENTS)



'CRATE' FOR AIRFREIGHT (1-10 TS UMAT SEGMENTS)