



No-Nail® Dangerous Goods Packaging

The UND (ANNT) range is a special **Combination Packaging** for liquids using No-Nail® plywood cases and inner containers and is approved under UN test certification allowing the transport of Dangerous Goods.

The **Total Pack Weights** must not exceed those stated below: -

Pack Ref.	INT size (mm)	Group III(Z)	Group II(Y)	Group I(X)
		kilos	kilos	kilos
ANNT15	968x580x485	215	163	129
ANNT10	768x580x485	167	123	95
ANNT05	568x485x485	103	77	59
ANNT00	568x380x485	71	53	42

Provided the UND pack is designed, assembled and packed strictly as instructed, it is then approved for the transportation of Packing Groups I, II, III (X,Y,Z) Dangerous Goods.

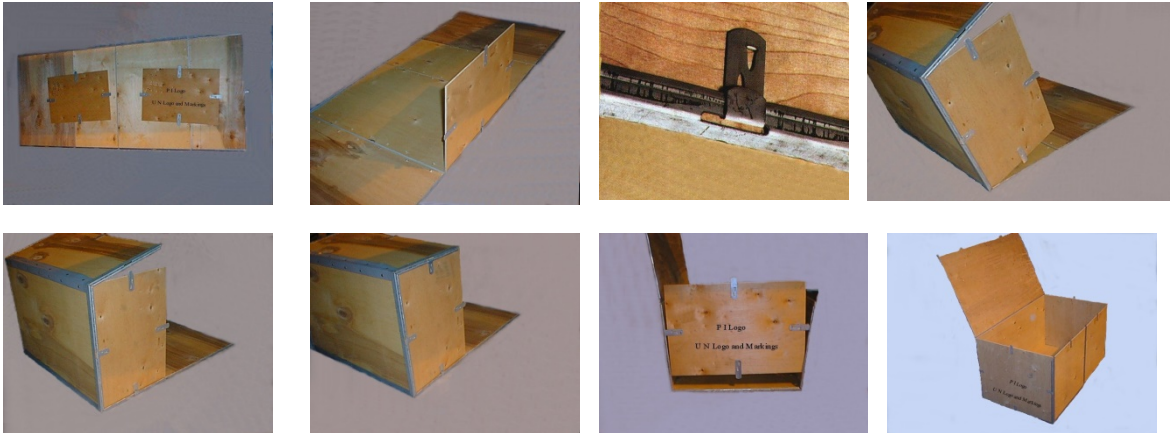
Design

1. The test packagings used 4 litre glass bottles of outside dimensions 159mm diameter, 344mm height with a plastic screw closure, cushioned and protected with vermiculite. An outer No-Nail® plywood case and polythene liner ensured adequate protection.
2. The largest case contained 6 off glass bottles, with the other sizes having 5 off, 3 off and 2 off respectively.
3. Packaging designers may use alternative inner packagings to those above provided they are of similar shape, offer at least a similar impact resistance and have a similar neck size and closure system.
4. Smaller inner packagings may be used if required, filling any void areas with additional cushioning material.

Assembly Instructions

1. The case comprises a body assembly and two end panels (Note that one of the end panels has UN markings and the other is plain). Put the two end panels aside and place the body assembly onto a raised flat surface (such as a bench or table), positioned so that the slots in the long, mitred metal edging overhang the bench edge.
2. Take the printed end panel and insert the bottom lug into the bottom slot, making sure that the print is in the correct plane and that the double lugs will match the double slots in the body metal. Using a hammer, bend the lug fully back onto itself.
3. Leaving the lid panel flat on the bench (the lid has the female, slotted closures), roll the end and base so that the end lug locates into the slot on the back panel, at the same time bringing the front panel over and similarly locating the twin end lugs. Bend both lugs firmly back on themselves.

4. Turn the partly assembled case around so that the open end of the case overhangs the bench and slot the second end panel home. Bend the lugs fully back on themselves. The case is now ready for packing.



Packing

1. Place the polythene liner loosely into the case and put a 75mm layer of vermiculite (or other suitable cushioning and absorbent material) in the base.
2. It must be ensured that there will be no reaction between the product and the inner container or packaging materials that would in itself create a hazardous product or weaken the integrity of the pack in any way.
3. Place the product in its inner container into the case ensuring a minimum clearance of 90mm around each item.
4. Pack vermiculite around the inner containers and tamp it down firmly.
5. Make sure that there is a minimum of 65mm of vermiculite between the top of the inner containers and the top of the case. Again tamp down firmly.
6. Inner containers **must** be surrounded with sufficient vermiculite to absorb the entire liquid contents of the total pack.
7. Close the polythene liner and seal with a suitable sealing tape.
8. Close the case, locating the side lugs and lid closure lugs into the appropriate slots and bend them back firmly on themselves – see pictures.
9. Please note that the packs require marking with the prescribed markings, symbols and labels appropriate to the hazardous product being packed.



No-Nail® Dangerous Goods Packaging

The UNSP (ANNS) range of No-Nail® plywood cases is special **Outer Packaging** approved under UN test certification (Superpack 4DV) allowing the transport of Dangerous Goods in **Non-Specified Inner Containers**.

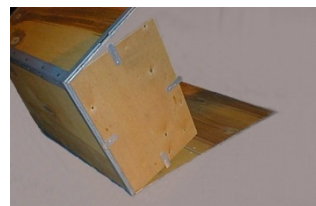
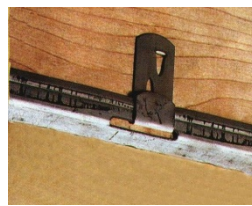
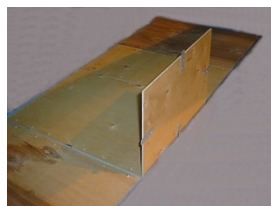
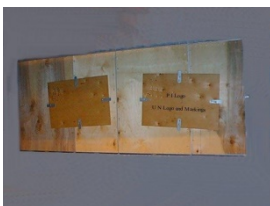
The Contents (Inner Containers plus their Product) and the Total Pack Weights must not exceed those stated below :-

Pack Ref.	INT size (mm)	Contents(kilos)	Pack Wt (kilos)
ANNS15	968 x 580 x 485	39.75	89
ANNS10	768 x 580 x 485	33.13	62
ANNS05	568 x 485 x 485	19.88	40
ANNS00	568 x 380 x 485	13.25	29

The Inner Container must be of good quality, compatible with the product being carried, be leakproof within normal temperature and pressure variations and have a secure closure system. Provided the UNSP No-Nail® plywood case is assembled and packed strictly as instructed, it is then approved for the transportation of Packing Groups I, II, III (X,Y,Z) Dangerous Goods.

Assembly Instructions

1. The case comprises a body assembly and two end panels (Note that one of the end panels has UN markings and the other is plain). Put the two end panels aside and place the body assembly onto a raised flat surface (such as a bench or table), positioned so that the slots in the long, mitred metal edging overhang the bench edge.
2. Take the printed end panel and insert the bottom lug into the bottom slot, making sure that the print is in the correct plane and that the double lugs will match the double slots in the body metal. Using a hammer, bend the lug fully back onto itself.
3. Leaving the lid panel flat on the bench (the lid has the female, slotted closures), roll the end and base so that the end lug locates into the slot on the back panel, at the same time bringing the front panel over and similarly locating the twin end lugs. Bend both lugs firmly back on themselves.
4. Turn the partly assembled case around so that the open end of the case overhangs the bench and slot the second end panel home. Bend the lugs fully back on themselves. The case is now ready for packing.



Packing

1. Place the polythene liner loosely into the case and put a 75mm layer of vermiculite (or other suitable cushioning and absorbent material) in the base.
2. If the dangerous product is to be in direct contact with the packaging materials, it must be ensured that there will be no reaction between the product and the packaging materials that would in itself create a hazardous product or weaken the integrity of the pack in any way.
3. Place the product (in its inner container, if appropriate) into the case ensuring a minimum clearance of 90mm around each item.
4. Pack vermiculite around the items and tamp it down firmly.
5. Make sure that there is a minimum of 65mm of vermiculite between the top of the items and the top of the case. Again tamp down firmly.
6. Inner containers containing liquids must be surrounded with sufficient vermiculite to absorb the entire liquid contents of the total pack.
7. Close the polythene liner and seal with a suitable sealing tape.
8. Close the case, locating the side lugs and lid closure lugs into the appropriate slots and bend them back firmly on themselves – see pictures.
9. Please note that the packs require marking with the prescribed markings, symbols and labels appropriate to the hazardous product being packed.

