



Dangerous Goods Load Spreading

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Why is spreading important on an aircraft?

To make the Aircraft loading
easier (The weight and balance
of aircraft)

To make loading at the aircraft
side easier for staff. An evenly
laden ULD is far more
manageable with an even
distribution of weight.

Safer for all concerned e.g. you
have to load a 4000kg pallet
onto an aircraft - 3000kg of

Everyday hundreds of aircraft carry tons of freight all over the world. As customers we put our trust in the airlines and expect they will deliver our freight to the required destination without delay and, most importantly, in good condition.

In order to achieve this there are many processes that must be followed to secure the safe transit of our cargo. One such process is load spreading - spreading the weight of the load over as much of the surface area available on or in the pallet or container.

Think of a skier in the snow. Why do they have skis or wear snowshoes? Instead of sinking they 'spread the load over the top. Compare a Training shoe to a women's stiletto, the trainer spreads the load over grass while the stiletto heel simply sinks. A table has 4 legs - this is the known as the 'contact area' - turn the table upside down and the contact area is greatly increased - the whole table top is now the contact area.

However, trying to spread weight evenly across a pallet, ULD or aircraft hold can have its own restrictions as there are many fragile, sensitive or perishable goods shipments that include, fresh fruit & vegetables, lab equipment, glass

that pallet is one single mass.

To avoid damage to the aircraft structure.

To avoid damage to other cargo loaded in close proximity.

More information?

For comprehensive information from IATA on the Dangerous Goods Regulations visit their website:

www.iata.org



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products, electronics or computer hard drives, that fly around the world that need to be handled very carefully and which cannot be turned or tilted for various reasons.

Ensuring handling and loading guidelines are followed for this cargo can make spreading the weight a bit more of a challenge.

TIP N TELL labels, SHOCKWATCH labels or upright labeling is used to show if fragile cargo consignments have been turned, tilted or mishandled during transportation.



These labels detect and record when fragile products have been exposed to a potentially damaging impact during transit or storage. They can also have a psychological effect on employees and shippers as goods with these labels often receive extra care in transit, therefore reducing damage.

On TIP N TELL stickers, blue beads move over the middle line and stick to the adhesive substance within the label indicating that this package has been tilted or turned during transport.



SHOCKWATCH has a glass tube containing a liquid which turns RED if the cargo is handled roughly.

Both TIP N TELL and SHOCKWATCH are designed to show any incorrect handling of the package throughout its entire journey from the Forwarder's warehouse, when it's accepted at an airline or cargo handler's warehouse and of course in a loading area. These labels are another reason why cargo should be thoroughly checked before acceptance as claims can run into large amounts of money if liability for not handling it correctly has been blamed on your staff.

Transporting Cars

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Transporting Radioactive Materials

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Questions?

If you have any questions on the topics discussed here mail us at:

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About Hermes Logistics Technologies

HERMES is an IT Solution designed specifically for the Air Cargo industry. With over 200 years of combined Air Cargo Handling experience, the HERMES Cargo Team have developed a robust, comprehensive & flexible solution, currently used by Airlines, Hubs, Ground Handlers and Airports whose operations control cargo volumes from 10,000 to in excess of 1,500,000 metric tons per annum.

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For any type of cargo with instructions not to tip or turn it during transport, we have to calculate the contact area on the way cargo is being loaded and delivered.

We do this by 'Spreading' that single piece over the complete base of the pallet. Most airlines have their own spreading equipment so it is important to know where such items are stored. Depending on the capacity known of your spreading materials and the weight of the individual piece, you can calculate how many pieces are needed to safely / correctly spread the load.

Here we have an 11 ton bulldozer where the Tyres are the contact area. It is driven onto the aircraft pallet but you can see the tyres now sitting on heavy duty spreader boards therefore spreading the load over the complete base of the pallet.



Add to that the required lashing of large, heavy cargo you can see the amount of lashing/tie-

down straps used to secure cargo in transit.

Here is an example of cargo secured to the aircraft floor on the Main Deck of a Cargo Freighter aircraft. Oversize cargo (Special Loads) would be built by the Shipper / using a



specific Cargo Agents warehouse. These would be built to specific requirements laid down by the airline carrier. Very often an airline representative will go the Agent warehouse to check the load or even oversee the loading and confirm all correct before arrival at aircraft side. Additional lashing may also be required to secure a load. Spreading may also be required for "loose load" cargo in the Aft Hold in compartment 5 to avoid possible damage

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to the aircraft fuselage.

Providing the load is safe old wooden pallets can also be used to help spread weight and to stop it from moving. In this example below, the first picture shows a tin that has been incorrectly placed for loading. Metal on metal will slide during transit so to load it correctly (pic 2) the tin is placed on old pallets or spreaders to prevent it moving



about and to spread the weight.

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