

DOCK CUBICLE

How to improve turn around time in loading/unloading operations

(Specially adapted for the DDL website - www.ddl.co.za)

Experts in the Refrigeration/Cold Storage Chain



D.D.L. EQUIPMENT cc

P.O. Box 210, Strathavon, 2031

Tel : (011) 883-3515

Cell : 083 653 3872

Fax : (011) 883 6819

Tel : A/H (011) 884 3870

E Mail : ddl@icon.co.za

Web : www.ddl.co.za

"The glue that keeps the total system together"

Andrew Stewart
Managing Director

DOCK CUBICLE

There is a compelling argument for docking equipment to be located outside the warehouse building parameters.

The principal, but not the only, factors in this argument are the need to reduce investment and operating costs and improve service wherever this is possible. Among the most significant costs and certainly the most irritating - are those arising from "shrinkage" and pilferage. The urgent need to eliminate these constantly increasing losses has brought about the introduction of more sophisticated materials handling equipment specifically designed to deal with these problems.

INTRODUCTION

This brochure is an update of the booklet "Dock Design and Layout", first published in the interim, except for the new Road Ordinance laws pertaining to the height and width of trucks and these do not effect loading dock design.

Nevertheless, over the past few years there has been a noticeable worldwide swing towards external docking equipment and it is important to appreciate the reasons for this.

1. *The New Docking Concept*

All goods, from raw materials to finished products must pass through the dock area at least once and it is now clearly understood that the loading dock is the most critical area of a warehouse for many reasons: security, maximising of valuable warehouse space, management control, protection of the warehouse environment, etc. Improve efficiency at this point can greatly reduce operating costs and boost profits.

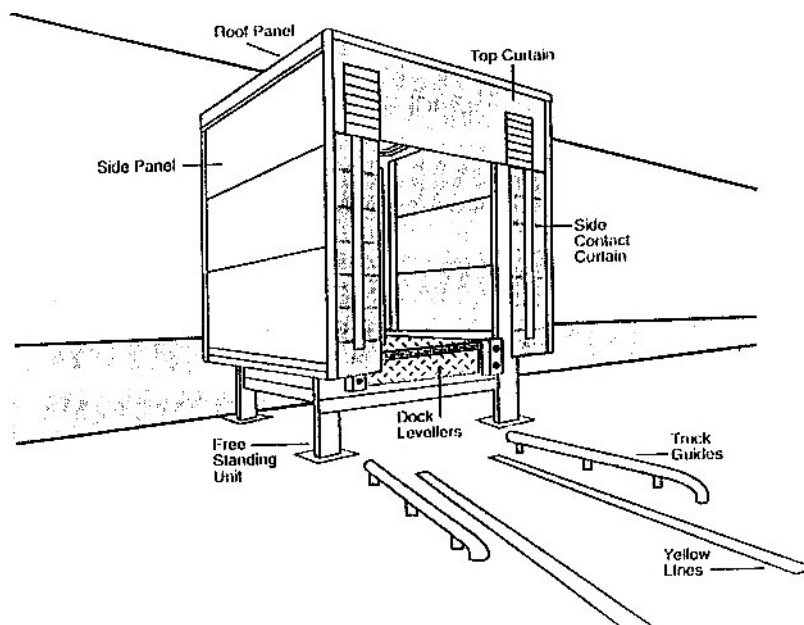
2. *Development of New Equipment*

The recently designed and developed DDL External Dock Shelter Cubicle follows the modern principles of keeping all docking equipment outside the warehouse building. It is an independent, free-standing unit that forms a lock between the building and trucks/trailers while loading or unloading.

The design affords total control over security, temperature, environmental conditions and access (see Fig. 1.)

Dock shelters are used when existing loading docks have oversized doors opening or projections away from the building which may prohibit the use of door seals. Where full access door openings are required for large loads or pieces of equipment, a shelter is recommended. They are, in most cases, larger than the actual door opening and project outward from the wall. When a truck backs into the shelter, contact panels wrap around the truck. These contact panels use spring steel inserts to press the panels firmly against all sides of the truck to form a seal.

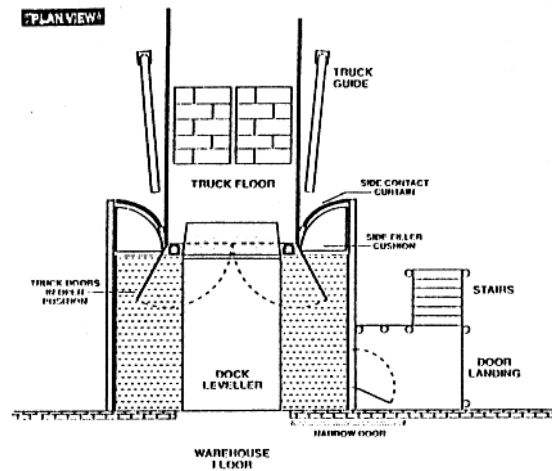
Fig.1



3. Space Saving in Warehouse.

The usual docking equipment protrudes 3m into the warehouse from the outside, perimeter wall. A further aisle of between 3m and 5m, depending on the equipment used, is required for racking or stacking the product. This is valuable space which can be used more productively if the docking equipment is situated outside the warehouse as in a Dock Shelter Cubicle (see Fig. 3.)

Fig. 3



4. *That Extra Warehouse Space*

The Dock Shelter Cubicle area and the truck/trailer floor must be considered as additional warehouse space, with the flow of materials from the warehouse across the Dock Shelter Cubicle to the truck or trailer floor.

5. *Saving in Building Costs*

With all the loading dock equipment located outside the warehouse, the perimeter wall can be built as a continuous wall without spaces or cavities for docking equipment. The same goes for the warehouse concrete floor, which can be cast continuously. These changes produce considerable savings in time, labour and costs.

6. *Fewer Docks Initially*

The change to an external loading dock system means that, in a new warehouse design, extra dock and door openings need not be provided to allow for future expansion of business. The Dock Shelter Cubicle can be installed when required as an add-on to the existing building.

7. *Overhead Lean-to or Cantilevered Canopy.*

The costly 4m to 6m cantilever canopy steel structures commonly found protruding from the outer edge and the full length of many existing warehouses can be eliminated by installing Dock Shelter Cubicles. The Dock Shelter Cubicle, as the name implies, shelter the dock and the warehouse door.

8. *Environmental Control*

As the Dock Shelter seals and wraps around the outside of the truck or trailer, enveloping the vehicle body, any rain, wind, dust, sleet or even snow are unable to effect foods handling through the cubicle between warehouse and road vehicle.

9. *Temperature Conservation*

One of the greatest areas of heat loss in a building is the loading dock area. Once the door is opened to receive goods a dramatic heat loss can occur. Modern loading dock shelters prevent this expensive temperature loss.

In any warehouses it is important to control temperature below ambient summer temperatures and dock shelters are as effective in preventing ingress of over-warm air as they are in avoiding heat losses from a warehouse.

10. Cold Room Warehouse.

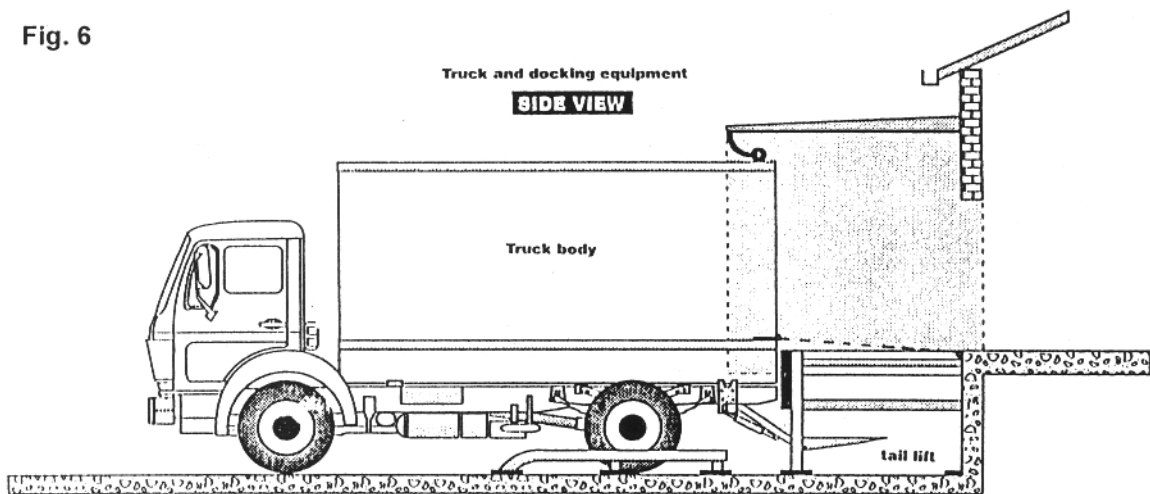
The Dock Shelter Cubicle is designed for use with cold room warehouses. It is fully insulated with isotherm panels making it an efficient environment lock between warehouse and truck as noted in sections 8 and 9 above.

A vital feature is that the warehouse door fully closed and seals properly on the inside of the warehouse and on to the floor, not on top of the dock leveller through which cold would escape. The warehouse cold room doors can also be smaller, to reduce the temperature.

11. Tail Lift Cavity Under Docking Equipment.

The international move towards installation of docking equipment outside, rather than inside, the warehouse is due largely to the increased employment of tail lifts on trucks. The new generation of tail lifts of the cantilever type afford a large platform which doubles as the truck rear door, able to tilt up and down. When backing up to docking equipment, a truck with this tail lift requires a cavity under the dock stand to accommodate the tail lift (see Fig. 6.) and to allow the rear of the truck to dock against the equipment for ease of loading and unloading.

Fig. 6



12. Security Improved.

The receiving and despatch bays of warehouses and supermarkets are notorious for "shrinkage", pilferage and other losses due to the level of activity in these areas.

By locating the docking equipment outside the building it is easier to control the movement and activities of personnel (see Fig. 3.) - Drivers and assistants are not allowed into the warehouse. Conversely warehouses and order picking staff cannot make contact with the truck crew. All paperwork can be handled in the Dock Shelter Cubicle rather than in the warehouse. Another security aspect is that goods or products cannot be slipped into the dock leveller pit in the warehouse to be collected later - a common occurrence at the present time.

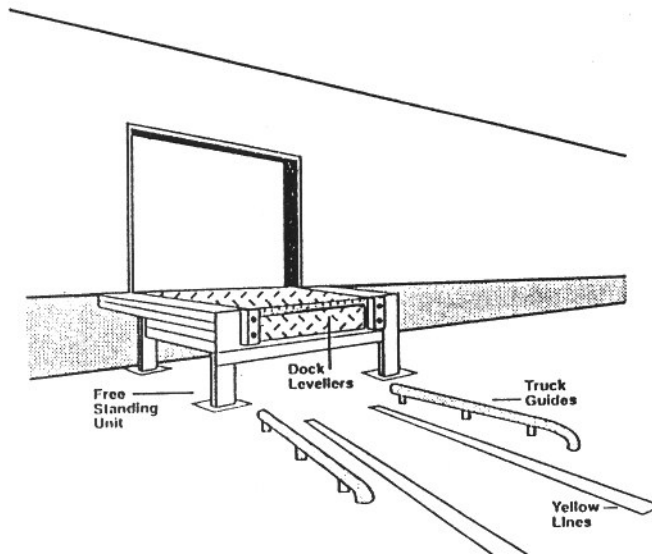
13. Truck Separation

By reversing into a Dock Shelter Cubicle, trucks and truck crews are separated from one another during the loading/unloading process. Not allowing access to the rear, loading end of the truck improves control over product, information and security and eliminates possible collusion between truck crew and warehouse staff.

14. No Refuse Pit

Dock leveller pits are well known as rubbish collecting areas. All the paper wrappings, string, cardboard and wood accumulate under the dock leveller in the warehouse and are left there until there is an effort made to clear the debris. By installing the dock leveller on a free standing unit (see Fig. 2.) in the external Dock Shelter Cubicle, the refuse drops to the ground outside and can be swept or hosed away without difficulty.

Fig. 2



15. Smaller Warehouse Doors

A door of 2,0m to 2,2m wide and up to 2,4m high can be installed to the outer face of the warehouse wall to allow handling equipment to pass through.

16. Wider Variation of Vehicle Sizes

A larger variation of both semi-trailer and rigid truck widths and heights can be accommodated by shelters sealing around the body, i.e., heights of 3,6m and 4,3m and widths of 2,1 m and 2,6m.

17. Truck Doors to Open into Dock Cubicles

Rear truck doors need only be opened and closed once the truck has reversed up to and into the Dock Shelter Cubicle. The doors can swing open over the dock levellers (**see Fig. 3.**)

At present, trucks generally have to stop before, open the double rear doors left and right before reversing up to the docking doors. The reverse procedure has to be performed when the truck departs. The single, faster operation possible with the Dock Shelter Cubicle improves security, reduces pilferage and facilitates maintenance of warehouse environmental temperature.

18. Stairs, Personnel Doors and Hatchways (See Fig. 3.)

To provide ease of access for personnel such as drivers and warehouse managers for paper and document control, stairs and personnel door can be accommodated in the cubicle design. In addition, or alternatively, hatchways can be accommodated in the cubicle design. In addition, or alternatively, hatchways can be provided for documentation control.

CONCLUSION

Take advantage of the expertise offered by the specialist in loading bay technology to increase productivity, conserve energy and improve turn around time in your loading and unloading operation.