

# Engineered Refrigeration Supplies, Inc.

**Industrial Refrigeration. Pressure Vessels. Heat Exchangers. Controls. Compressor Parts.**

## Data needed to calculate heat load for a cold room:

1. Cold room size \_\_\_\_\_' L x \_\_\_\_\_' W x \_\_\_\_\_ H. (Does the cold room have a flat ceiling?)
2. Location \_\_\_\_\_ . Site elevation \_\_\_\_\_.
3. Maximum ambient temperature \_\_\_\_\_'F, Minimum ambient temperature \_\_\_\_\_'F. Any unusual sources of **humidity** or heat near the cold room like a boiler near either cold room or condensing unit?  
\_\_\_\_\_
4. Maximum wet bulb temperature \_\_\_\_\_.
5. Room temperature required \_\_\_\_\_'F.

[For short term storage temperature = 34°F to 36°F]

[For Frozen Food Storage 0°F to -10°F]

[For ice cream storage -20°F]

6. Number of doors the customer wants \_\_\_\_\_. Are these doors dock high? \_\_\_\_\_. What types of doors are these? Sliding type \_\_\_\_\_ & quantity \_\_\_\_\_ each. Roll type \_\_\_\_\_ & quantity \_\_\_\_\_ each and walk-in doors \_\_\_\_\_ & quantity \_\_\_\_\_ each.

7. Is the air change likely to be heavy because the customer is likely to use both doors to load & unload at the same time and cross winds can blow through the room?

8. The insulation prescribed by the customer if any.

Insulation to walls \_\_\_\_\_" of polystyrene or polyurethane.

Insulation to ceiling \_\_\_\_\_" of polystyrene or polyurethane.

Insulation to floor \_\_\_\_\_" of Styrofoam.

9. Product name \_\_\_\_\_.

10. Product inlet temperature \_\_\_\_\_'F. (This gives us heat of respiration on produce also.)

11. Product final temperature required \_\_\_\_\_'F, and time to pull down \_\_\_\_\_ hours.

12. Product packaging if any \_\_\_\_\_.

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Product packaging can hinder removal of sensible heat and heat of respiration. Can affect how the product is likely to dry out.

13. Is there a racking system in the room \_\_\_\_\_?

Normally the racks are 4' deep at the beginning and end of room layout with two racks back to back in every isle. The isle is normally 10' to 12' wide depending of the type of forklift used by the customer.

14. The size of pallet \_\_\_\_\_" L x \_\_\_\_\_" W x \_\_\_\_\_" H.

15. Weight of each pallet \_\_\_\_\_ Lb. (normally 1,500 to 2,000 Lb.)

Normally one can store in the cold room at 12 to 13 Lb/ft<sup>3</sup> to fill the room and normally it takes out about 8 to 15 days to fill the room.

16. How much product is loaded into the room per day \_\_\_\_\_ Lb. What is the maximum amount of product you need to store in the cold room?

17. Number of forklifts operating in the room \_\_\_\_\_ & horsepower of each forklift \_\_\_\_\_.  
Normally forklifts are about 5 to 10 Hp each.

18. Number of humans working in the cold room \_\_\_\_\_.

19. Lighting watts/ft<sup>2</sup> \_\_\_\_\_. (Normally, 1 watt/ft<sup>2</sup>.)

20. Hours per shift of operation \_\_\_\_\_.

21. Number of shifts worked \_\_\_\_\_.

22. Any misc. heat load we need to take care of in the refrigeration.

25. Special \_\_\_\_\_.

26. Refrigerant to be used \_\_\_\_\_.

Please send us an E-mail at [ERSINCAZ@AOL.Com](mailto:ERSINCAZ@AOL.Com) or give us a call at 480-962-4129 or fax us at 480-464-1491, if you have any questions or require any further information.

Yours sincerely,  
Engineered Refrigeration Supplies, Inc.

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