

In this ERD revision, we deleted MATERIAL_SOURCE, SOURCE, MANUFACTURER_SOURCE to resolve referential loop and narrow scope of the database (since the manufacturers' sourcing information would not be easily available to us and it is too far upstream to be relevant to us).

We also changed SOCK and SOCK_TYPE to PRODUCT and PRODUCT_TYPE since there was nothing particularly sock-like about the products. This means we could represent other pieces of clothing such as hats or gloves. We added MANUFACTURER_TYPE to answer questions about manufacturers such as handicrafts vs. assembly line, etc.

We changed ORDER_ITEM to SALES_ORDER_ITEM and ORDER to SALES_ORDER and replaced PRODUCTION_RUN with PURCHASE_ORDER and PURCHASE_ORDER_ITEM. The purpose of this is first to separate sales orders (orders to our company from customers) and purchase orders (orders from us to the manufacturer). This schema is a standard ORDER/LINE_ITEM setup, with the respective item tables being associative entities between product and sales order or purchase order.

We made SIZE, LENGTH, and MATERIAL into look up tables since they now only have to do with PRODUCT.

We also reorganized the PRODUCT table and its associated tables to have the following schema: A product represents an abstract specification for a product, such as "solid red tube sock". This product could be made with many different lengths and size combinations and be made from many different materials. Likewise, SIZE and LENGTH could be associated with many different products. To resolve this relationship, we created an associative entity between PRODUCT and the SIZE and LENGTH tables, called MEASUREMENT. In this way, many different instances of a product with varying size and length can be found in the measurement table.

MATERIAL is now a lookup table with the associative entity between MATERIAL and PRODUCT called PROD_MATERIAL. This is because most socks are made from many different materials and not just one. So a customer could choose what kinds of materials are part of the sock they purchase.