any waste space. The size and weight of the bar may be predetermined so that each bar will produce on rehydration an amount of foods corresponding to a commonly accepted fraction of the usual serving portion. Thus each bar of compressed precooked rice may be of such weight that when cooked it will produce one cup of cooked rice; this will enable the housewife or other user of the compressed bar to dispense with the use of measuring cups or other measuring devices since the quantity of compressed food to be used at any given time can be readily determined by merely counting out the required number of bars of compressed food.

In the "falling ball test" the composite bar to be tested is placed on a cast iron plate and a steel ball weighing 28.2 grams is dropped from a height of 10 inches onto the center of the bar. The number of drops necessary to crack or break the bar is reported.

Bulk densities, referred to in the above examples, are determined in conventional manner by placing the morsels in a container, tapping the container until there is no significant decrease in the volume occupied by the mass of morsels on continued tapping, and measuring the volume occupied by the mass. Apparent densities of the individual morsels were determined by weighing the morsels, coating the morsels with a film of molten paraffin to seal their surfaces, immersing the coated morsels completely in water and measuring the volume of water displaced, in any suitable manner. The apparent density is taken as equal to the weight of the uncoated morsels divided by the volume of water displaced.

The apparent density figure for the "Minute Rice" (Example IX above) indicates that the principal effect of the compression treatment is a distortion of the rice grains so that they interfit closely.

As previously indicated, the optimum degree of partial rehydration before compression depends on the particular food being treated. Thus the amount of moisture added should not be so great as to bring the food to a state from which it will shrink on subsequent dehydration. In the case of freeze-dried foods, the moisture content on partial rehydration is usually in the range of 5 to 13%. For puff-dried or quick-dried foods such as the rice described in Example IX, the range of moisture contents on partial rehydration is higher, e.g. about 15 to 18%.

By the use of this invention, it is possible to produce porous food products of relatively high density (in the range of 0.5 to 0.9 g./cc.) and of such low water content that they are stable without refrigeration for long periods of time. Advantageously, the products made from freeze-dried morsels have moisture contents not greater than 3%, for example about 1 to about 2½% moisture. Advantageously, the products made from porous, brittle, foods dehydrated by methods other than freeze-drying have moisture contents below about 12%. As previously discussed, the products retain the desirable flavor and texture of the original freeze-dried material, on rehydration.

The products may be packaged for shipment or storage in any suitable manner, preferably in wrappings or containers substantially impervious to the water vapor of the atmosphere.

It is to be understood that the foregoing detailed description is given merely by way of illustration, and that variations may be made therein without departing from the spirit of this invention.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A process which comprises partially rehydrating morsels of a freeze-dried cellular food, the water content of the morsels after such rehydration being in the range of about 5 to 13%, compressing the partially rehydrated morsels together while maintaining the surface moisture of said morsels and the pressure sufficiently high to cause said morsels to adhere during said compression, and dehydrating the resulting compressed products to a moisture content below about 3%, the degree of compression being such that the density of the dehydrated product is in the range of about 0.5 to 0.9 gram per cc.

2. A process as set forth in claim **1** wherein the pressure is in the range from about 1100 p.s.i.g. to about 3000 p.s.i.g.

3. A process as set forth in claim **1** in which the moisture content at the zones of the morsels adjacent their surfaces just prior to compression is greater than the average moisture content of the morsels.

4. A process as set forth in claim **3** and including a step of moistening the surfaces of the morsels after said rehydration and prior to said compression.

5. A process as set forth in claim **3** in which the surfaces of said morsels carry an added adhesive.

6. A process as set forth in claim **5** in which said adhesive is a vegetable gum.

7. A process as set forth in claim **1** in which, in the step of partially rehydrating said morsels, water is applied to the outermost surfaces of said morsels and the concentration of water at said outermost surfaces is reduced prior to said compression.

8. A process as set forth in claim **7** in which said morsels are shrimp.

9. A process as set forth in claim **7** in which said morsels are green peas.

10. A process which comprises partially rehydrating brittle, porous, water-softenable morsels of a dehydrated cellular food, the water content of the morsels after such partial rehydration being in the range of about 15 to 18%, said brittle morsels having the unshrunken and unshrivelled shape characteristic of the food before dehydration, compressing the partially rehydrated morsels together while maintaining the surface moisture content of said morsels and the pressure sufficiently high to cause said morsels to adhere during said compression, and dehydrating the resulting compressed composite product to a moisture content below about 12%, the amount of moisture added in said rehydration being sufficient to soften said morsels enough to permit said compression without substantial fragmentation but insufficient to so hydrate said food so that it will shrink on said subsequent dehydration, the degree of compression being such that the density of the dehydrated product is in the range of about 0.5 to 0.9 gram per cc.

11. A process as set forth in claim **10** in which said brittle, porous morsels which are the starting materials of the process are cereal grains which have been subjected to moisture and heat to gelatinize them and cause them to soften and swell and then have been dried by removing moisture from their surfaces at a rate faster than it can diffuse to said surfaces from their interiors so as to set said grains in their enlarged condition and produce a porous structure.

12. Process as set forth in claim **10** in which said morsels are quick-cooking rice grains.

13. A process as set forth in claim **10** wherein the pressure is in the range from about 1100 p.s.i.g. to about 3000 p.s.i.g.

14. A process which comprises applying about 5 to 15% of a water-soluble liquid polyhydric alcohol to a freeze-dried cellular food, permitting said alcohol to penetrate into said morsels, and compressing the resulting treated morsels together under such conditions as to produce a composite product having a density in the range of about 0.5 to 0.9 gram per cc. and a moisture content below about 3%.

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