

	Republic of Iraq	Council Of Ministers Central Organization for standardization And quality control
IQS / 37/ 2000		
ICS 67. 060		

**Iraqi Standard Specifications
First Amendment
n. 37**

**Wheat Products
Wheat Flour For Bread Industry**

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WHEAT FLOUR FOR BREAD INDUSTRY**



**English translation
For information only
The original standard in Arabic remains the reference**

Introduction

This specification was issued due to the wide use of flour as nutritious ingredient and the fact that it is essential in food industries; and in order to preserve the health of the consumer and obtain a product of good quality. It was adopted in 1989. Since new references were published and the passing of 5 years, it was updated in 2009.

Wheat Products

Wheat Flour For Bread Industry

1- Scope and Field of Application

This Specification defines the requirements for soft flour wheat intended for human consumption and used for the preparing bread. It does not apply to coarse or full grouts wheat flour, whole wheat flour semolina, wheat flour used as a brewing material or manufacturing starch and / or glutens, wheat flour unused for food, or wheat flour which is reduced in protein after grinding when drying it or sharpened and / or wheat that has other added materials to it, other than those mentioned in this specification.

2- Definition

2-1 Wheat Flour: is produced of fine wheat grains of one of those types, *Triticum aestivum* L., Club Wheat, *Triticum Compactum* or a combination of the three. They are grinded and grounded after removing the bran and part of the core. The rest is processed until it reaches the appropriate fineness.

2-2 Extraction: The quantity in kilograms of extracted flour from 100 kg of clean wheat ready for grinding.

3- Flour Classification

The wheat flour is classified according to the following grades depending on the ratio of extraction:

3-1 white flour: the extraction is no more than 72%.

3-2 premium brown flour for bread: the extraction is no more than 85%.

3-2 whole flour: the extraction is up to 100%.

4- Requirements

The flour must meet with the following general requirements:

4-1 It is the result of grounding healthy and clean wheat grains that are free of insects and their remains and animal droppings; and that it meet with the Iraqi Standard Specification n. 2508 concerning the Wheat.

4-2 To have all its natural properties and to be free of unnatural odors and flavors and live insects.

4-3 to be free of dirt (impurities of animal origin including insect remains),

foreign matter, rodent remnants and other harmful matters.

4-4 to have homogenous color and free of lumps.

4-5 The wheat flour cannot be mixed with any other type of flour.

4-6 The following matters could be added according to the appropriate quantities for production.

4-6-1 malted products with enzymatic activity made from wheat;

4-6-2 vital wheat gluten;

4-7 may add Vitamins, minerals and amino acids at rates to be determined by health authorities for the purpose of improving the nutritional value of the product

4-8 Flour **shall** be fortified with iron in the form of ferrous sulfate in the range of 30-60 ppm

4-9 Flour **shall** be fortified with folic acid in the range of 1.4 to 2.8 ppm

4-10 The flour must meet with the limits listed in the table (1).

Table (1)

Properties	White Flour	Brown Flour	Whole Flour	Testing Methods ****
– Moisture (max) m/m	14%	14%	14%	Evidence 384
– Gluten (min)	9%	10%	10.5%	Evidence 384
– Total ash (max) m/m	0.58%	1.2%	2%	Evidence 384
– Acid-Insoluble ash (max)	0.05%	0.05%	0.05%	Evidence 384
– Protein* (min) m/m	11%	11%	12.5%	See**
– Amylase activity - Falling number (min)	250	250	250	
– Fat Acidity calculated as sulfuric acid (max)	70mg/100g	70 mg/100g	70 mg/100g	See***
– Potassium hydroxide to neutralize the free fatty acids in 100 grams flour on the basis of dry matter	50 mg	50 mg	50 mg	

Note: All rates of the components shown in Table (1) except for moisture are on dry matter basis.

* Estimated protein ($N \times 5.7$)

** See also Item 12-2

*** Please see item 12-3

**** Test Methods of pilot reference in case of disagreement.

Fineness of flour

Table (2)

Class	Requirements of no less than
White flour	The entire 100% passes through the standard sieve with slots of 216 microns for diameter and 90% of it through the standard sieve with slots of 180 micron for diameter.
Brown flour	The whole passes through the standard sieve with slots of 250 micron for diameter.
Whole flour	90% of it passes through the standard sieve with slots of 300 micron for diameter and not less than 75% through a standard sieve with slots of 250 micron for diameter.

5- Food Additives

The following substances may be added to the flour in order to improve or compensate for losses due to manufacturing operations.

5-1 combinations of non-harmful enzymes in quantities determined by the good manufacturing practices:

5-1-1 fungal amylase of the fungus *Aspergillus niger*

5-1-2 fungal amylase of the fungus *Aspergillus oryzae*

5-1-3 proteolytic enzyme of the bacteria *Bacillus subtilis*

5-1-4 proteolytic enzyme of the fungus *Aspergillus oryzae*

5-2 Materials to treat flour:

Substance	Maximum in the final product mg / kg
5-2-1 Ascorbic acid or its sodium salts and potassium	300
5-2-2 L-Cysteine hydrochloride	90
5-2-3 Mono calcium phosphate	2500
5-2-4 Lecithin	2000
5-2-5 Benzyl peroxide	60
5-2-6 Azobicarbon Amid (for bread yeast)	45

6- Contaminants

6-1 Heavy Metals: Flour must be free of heavy metals in levels that will affect the health of the consumer.

6-2 Mycotoxins

6-2-1 The flour meets with the internationally-determined maximum limits of mold, except for paragraphs 6-2 - 2, 6-2-3

6-2-2 Max limit of aflatoxin is 5 ppb

6-2-3 To be free of harmful mold and toxins such as ergot

7- Health Issues

7-1 During the production and handling of this product, the conditions and requirements listed in the Iraqi Standard Specification for General Rules in factories of food industries n.356.

7-2 The microbiological limits must meet those listed in The Iraqi Standard Specification n. 2270/10 on the microbiological limits for grains and their products.

7-3 The pesticide residues allowed must not exceed the internationally permitted limits

7-4 The radioactivity rate must not exceed what is allowed by the health authorities.

8- Marking

The Following information is to be indicated in addition to what is listed in the Standard Specification n. 230 concerning the Labelling for Canned and packed food.

8-1 Designation of the Product. "Fortified with iron" shall be added.

8-2 Name and trademark of the manufacturer.

8-3 The classification of wheat flour.

8-4 Net weight in international units.

8-5 Production and expiry date according to the Iraqi Standard Specification n° 1847 in 1999.

8-6 Country of origin

9- Packaging

9-1 The flour is packed in containers that meet the health, nutritional and technical requirements and the tactile properties of the product.

9-2 The containers and the packaging materials are made of suitable and clean material, not reused for any purpose, have little permeability to moisture, prevent air, human and animal contamination and stop any odor, undesirable flavor or toxic matters.

9-3 When packed in bags, these must be clean, strong, well-tailored and conforming to the requirements of the Iraqi Specification n. 1605/1 about woven polypropylene bags used in packaging agricultural products.

10- Storage and Transfer

Flour is stored in clean dry storage facilities that are well-ventilated in accordance with the rules of proper storage requirements. It should be protected from insects and rodents, is kept away from storage areas of toxic pesticides and other harmful substance.

11- Technical Terms

Filth	اوساخ
Fungal amylase	اميليز الفطر
Proteolythic enzyme	انزيم تحلل البروتين
Vital	حيوي
Rye	شوفان
Sack	كيس

12- References:

12-1 Specification of the Codex Alimentarius Commission n. 152 in 1985 and its update in 1995

12-2 Specification of the International Standards Organization n. 1871/1975

12-3 Specification of the International Standards Organization n. 7305/1986

12-4 Saudi Arabian Standard Specification n.3 /1396 AH/ 1976 AD

12-5 Jordanian Standard Specification n. 293 in 1992

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Publication date in the Official Journal:

Specification implementation date:

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