

Wheat Flour standards in European Union

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TFIF International Grain Congress on

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Summary:

- EFM presentation
- GMI presentation
- Wheat Flour standards in European Union



The European Flour Milling Association



Associated members:



Key figures

45 MILLION

TONNES OF SOFT WHEAT AND RYE PROCESSED IN THE EU EACH YEAR,
THE LARGEST SINGLE FOOD USER OF DOMESTIC WHEAT AND RYE.

45 000 EMPLOYED
PEOPLE

OVER 600 TYPES

OF HIGH-QUALITY FLOURS TO MEET
INCREASINGLY SPECIFIC CONSUMER
DEMANDS

USE OF CAPACITY
ESTIMATED AT

65%

€ 15 BILLION TURNOVER

MORE THAN

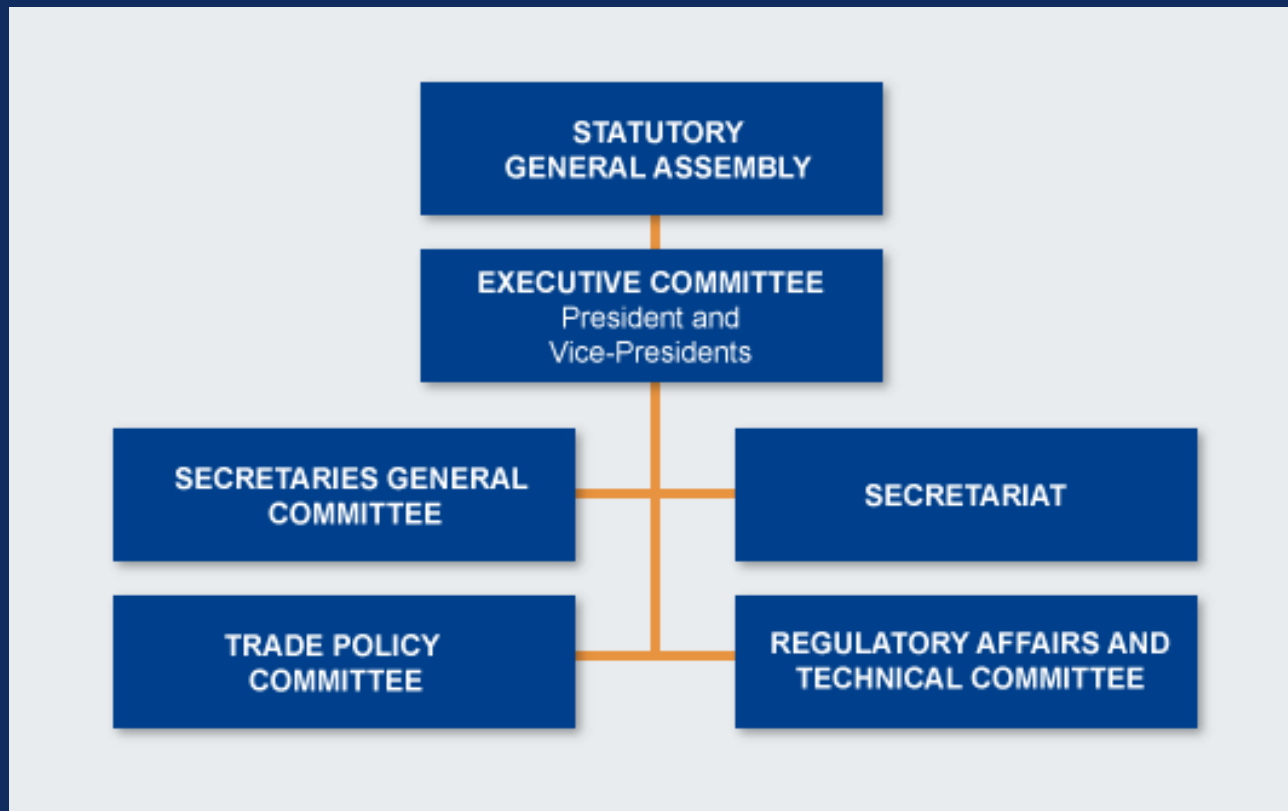
3 800

MILLING COMPANIES
A FRAGMENTED INDUSTRY
CONSOLIDATING

11%

SHRINKING SHARE OF EU FLOUR
EXPORTS ON GLOBAL MARKETS

The Regulatory & Technical Affairs Committee



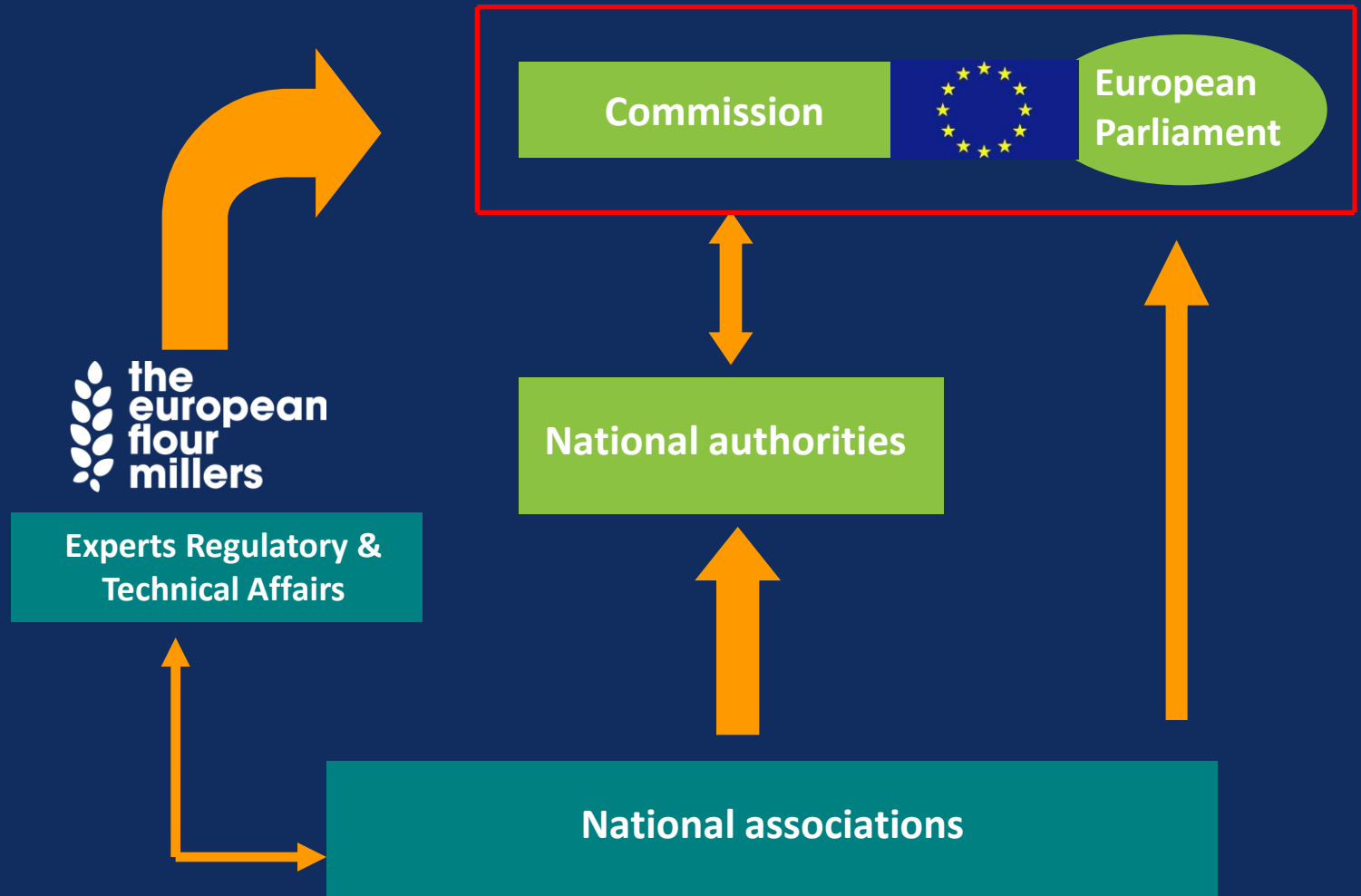
The Regulatory & Technical Affairs Committee

An expert Committee focusing on technical issues

- Food and feed materials Hygiene
- Contaminants & plant protection products
- Food information to consumers
- Ad-hoc monitoring & lobbying
- EU Fusarium Toxins Forums

Promote the flour milling interests on regulatory issues

(simplified)



 the
european
flour
millers

Experts Regulatory &
Technical Affairs

National authorities

Commission



European
Parliament

National associations

Flour milling expertise in Brussels' experts meetings



 the
european
flour
millers



Visit of European Commission officers in flour mills

(Here at Meneba, Netherlands)



GMI
il primo ingrediente



GRANDI MOLINI ITALIANI

Company Profile

THE MAIN ITALIAN MILLING GROUP

Grandi Molini Italiani is the main Italian milling group and among the leaders in Europe.

We produce **soft wheat flour** and **durum wheat semolina** for all segments of the market (Consumer, Industries, Bakeries)

We are **attentive to the market** and like to listen to and understand our clients' needs

We pay particular attention to **food safety** and guarantees for the consumer.



COMPANY PROFILE

TURNOVER

380

Millions euro

PLANTS

5

WHEAT PROCESSED

1.150.000

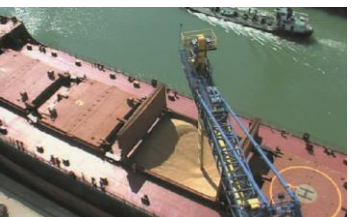
t/year



PORT
TERMINAL 4

RAILWAY
TERMINAL 5

BRANCHES 8



TWO CENTURIES OF FLOUR

1830- 1900

Antonio Costato from the river to steam



1871- 1937

Marcello Costato regional development



1908- 1983

Antonio Costato domestic market



1934

Luigi Costato opening to the export market



1960

Antonio Costato project Columbus



2003

Cargill has held a 10% share in GMI



“We were a small stone mill on the riverside and, step by step, we became the foremost milling group in Italy and one of the largest in Europe.”







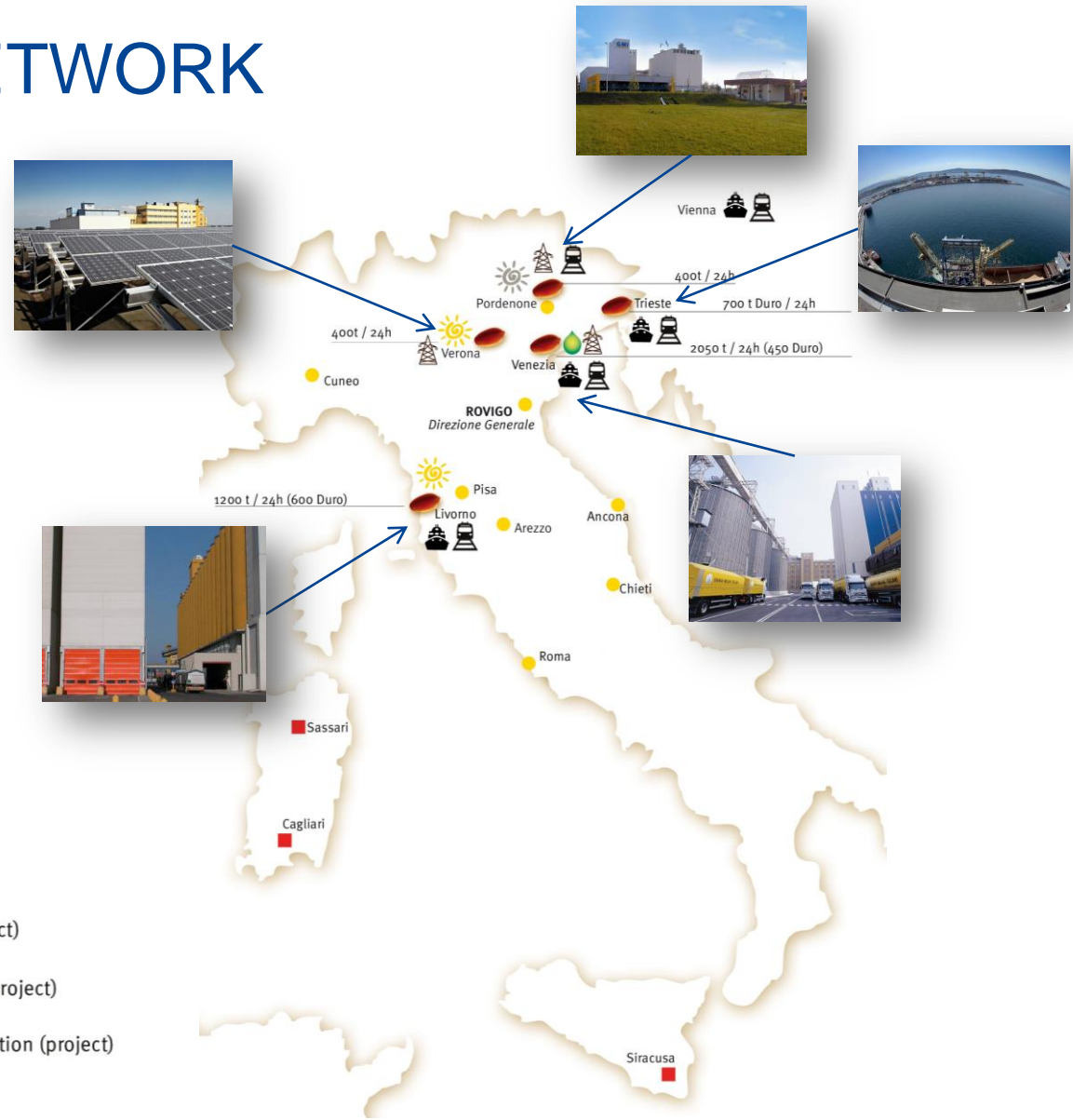
OUR NETWORK

FOOD

-  Milling plant
-  Branch
-  Railway terminal
-  Port terminal
-  Dealer

NON FOOD

-  Photovoltaic
-  Photovoltaic (project)
-  Bioethanol plant (project)
-  Biomass Power Station (project)



OUR CERTIFICATIONS



UNI EN ISO
9001:2008



Safety management
BS OHSAS 18001:2007



UNI EN ISO
14001:2004



BRITISH RETAIL
CONSORTIUM



KOSHER
CERTIFICATION



SEDEX
Responsible
supply chains
Certification



ORGANIC
CERTIFICATION



AGRIQUALITÀ
CERTIFICATION

OUR CHARACTERISTICS



MILLS NETWORK

- ➔ Specialisation and risk management



SUPPLY CHAIN

- ➔ Monitoring the origins
- ➔ Logistic efficiency
- ➔ Competitiveness



FOOD SAFETY

- ➔ Traceability



VIEW OF THE MARKET

- ➔ Ability to predict trends

MARKET SHARE



FOOD INDUSTRIES (FLOUR)

25%



**FOOD INDUSTRIES
(SEMOLINA)**

13%



BAKERIES

15%



RETAIL*

31%

Source: GMI

* Source: Symphony IRI

EU REGULATION ON WHEAT FLOURS

- EU regulates health issues (contaminants, pesticide residues, heavy metals, etc.) flour additives and use of enzymes
- EU does not deal with the physical and chemical characteristics of the flours (each Nation has its own technical specifications)

ITALIAN REGULATION ON WHEAT FLOURS

Summary of definitions

Soft Wheat products

- **Wheat flour:** the product obtained by grinding and sifting the wheat free from foreign substances and impurities
- **Whole wheat flour:** the product obtained directly from the milling of wheat free from foreign substances and impurities

Durum wheat flour products

- **Durum wheat semolina** or simply semolina: the sharp edge granular product obtained from the grinding and sifting of the durum wheat, free from foreign substances and impurities
- **Durum wheat semolato** or simply semolato: the product obtained by grinding and sifting the durum wheat free from foreign substances and impurities, after removing the semolina
- **Whole durum wheat semolina**, or simply whole semolina, the sharp edges granular products obtained directly from the milling of durum wheat free from foreign substances and impurities
- **Durum wheat flour:** the non granular product obtained by grinding and sifting the wheat free from foreign substances and impurities

ITALIAN REGULATION ON WHEAT FLOURS

Technical specifications

TYPE	MAX MOISTURE	On 100% dry basis		
		ASHES		Protein min. N x 5,70
		min	MAX	
Soft Wheat Flour Type "00"	14,50	-	0,55	9,00
Soft Wheat Flour Type "0"	14,50	-	0,65	11,00
Soft Wheat Flour Type "1"	14,50	-	0,80	12,00
Soft Wheat Flour Type "2"	14,50	-	0,95	12,00
Whole Soft Wheat Flour	14,50	1,30	1,70	12,00

The provisions of above table shall not apply to flour intended for uses different than baking

The "00" flour can also be produced in the granular shape (granite)

In flour 1 ashes cannot contain more than 0.3 per cent of the insoluble part in hydrochloric acid

It is possible the sell for consumption soft wheat flours with a moisture content up to 15.50%, if their label contain the statement "maximum humidity 15.50 percent"

Legal Basis: DPR n° 187 – 9/02/2001

ITALIAN REGULATION ON WHEAT SEMOLINA

Technical specifications

TYPE	MAX MOISTURE	On 100% dry basis		
		ASHES		Protein min. N x 5,70
		min	MAX	
Semolina*	14,50	-	0,90	10,50
Semolato	14,50	0,90	1,35	11,50
Whole durum wheat semolina	14,50	1,40	1,80	11,50
Durum wheat flour	14,50	1,36	1,70	11,50

* Particle size: 25% max with a mesh of 0.180 mm

It is permitted to produce, to be used exclusively for bread-making and to consumers, semolina and semolato regrind as well as durum wheat flour.

On all the above products is allowed the presence of wheat flour in a proportion not exceeding 3 percent.

It is possible to sell for consumption soft wheat flours with a moisture content up to 15.50%, if their label contains the statement "maximum humidity 15.50 percent"

Legal Basis: DPR n° 187 – 9/02/2001

FRENCH REGULATION ON WHEAT and RYE FLOURS Technical specifications

WHEAT FLOUR TYPE	MAX MOISTURE	On 100% dry basis		Common name	Use
		ASHES			
		min	MAX		
Type "45"	16 %		0,45	White flour	Pastry
Type "55"	16 %	0,50	0,60	White flour	White bread
Type "65"	16 %	0,62	0,75	White flour	Country bread, traditional bread
Type "80"	16 %	0,75	0,90	Semi-complete flour	Organic bread, semi-complete bread
Type "110"	16 %	1,00	1,20	Semi-complete flour	
Type "150"	16 %	1,40		Complete flour	Complete bread "Wholemeal bread"

RYE FLOUR TYPE	MAX MOISTURE	On 100% dry basis	
		ASHES	
		min	MAX
Type "70"	16 %	0.60	1.00
Type "85"	16 %	0,75	1,25
Type "130"	16 %	1,20	1,50
Type "170"	16 %	1,50	



Type "Gruau 55" (Gruel) Ashes between 0,50 and 0,60 – W/Chopin > 220 – G/Chopin >19 – Protein > 11,5
 Type "Gruau 45" Ashes < 0,50 – W/Chopin > 220 – G/Chopin >19 – Protein > 11
 Legal Basis: Decree 63-720, 13 July 1963

GERMAN REGULATION ON WHEAT, SPELT and RYE FLOURS Technical specifications

Cereal flour	TYPE	MAX MOISTURE	On 100% dry basis	
			ASHES	
			min	MAX
Wheat flour	405	15%		0,5
	550	15%	0,51	0,63
	812	15%	0,64	0,90
	1050	15%	0,91	1,20
	1600	15%	1,21	1,80
Durum semolina	1600	15%	1,55	1,85
Spelt flour	630	15%		0,70
	812	15%	0,71	0,90
	1050	15%	0,91	1,20
Rye flour	815	15%		0,90
	997	15%	0,91	1,1
	1150	15%	1,11	1,30
	1370	15%	1,31	1,60
	1740	15%	1,61	1,80

Legal Basis: German DIN-NORM 10.335

AUSTRIAN REGULATION ON WHEAT and RYE FLOURS Technical specifications

Cereal flour	Type	On 100% dry basis		Acidity	
		ASHES		Standard	Max
		min	MAX		
Farina Semolino Wheat flour extracts	W 480	0,33	0,58	1,6	2,4
Baking Flour	W 700	0,66	0,79	1,9	2,5
Bread Flour	W 1600	1,50	1,75	3,3	4,1
Wholemeal wheat grist Wholemeal wheat flour				3,8	4,5
Superior rye flour	R 500	0,43	0,57	1,6	2,4
Rye flour	R 960	0,88	1,12	2,6	3,3
Dark rye flour	R 2500	2,00	3,00	5,1	5,9
Wholemeal rye flour				3,8	4,5

Legal Basis: BMG-75210/0013-II/B/7/2009 vom 18 feb. 2010

POLAND REGULATION ON WHEAT and RYE FLOURS Technical specifications

TYPE	MAX MOISTURE	On 100% dry basis		Sub Type
		ASHES		
		min	MAX	
Type "450"	15%		0,50	Type 450 fine (cake) - Type 450 grits (15,3% Max moisture) Type 500 (rolls)
Type "550" Superb	15%	0,51	0,58	
Type "650"	15%	0,59	0,69	
Type "750" Bread flour	15%	0,70	0,78	
Type "1050"	15%	0,79	1,20	
Type "1400"	15%	1,21	1,60	
Type "1850" Graham	15%	1,61	2,00	
Type "2000"	15%		2,00	Type 2000 Wholegrain fine - Type 2000 Wholegrain coarse

Legal Basis: PN-A-74022:2003 Cereal Product - Wheat flour

RYE FLOUR TYPE	MAX MOISTURE	On 100% dry basis	
		ASHES	
		min	MAX
Type "500"	15%		0,58
Type "720"	15%	0,59	0,78
Type "1150"	15%	0,79	1,30
Type "1400"	15%	1,31	1,60
Type "2000"	15%		2,00

Legal Basis: PN-A-74032:2002 Cereal Product - Rye flour

SPANISH REGULATION ON WHEAT FLOURS

Summary of definitions

- **Wheat Flour:** Can be 100% Triticum aestivum or a mix with Triticum durum (maximum 20%)
- **Wholemeal Flour:** The product resulting from the grinding of the wheat grain without separation of any part of it (extraction rate of 100 %)
- **Degerminated Whole wheat Flour:** The product resulting from the grinding of the wheat grain after the removal of the germ
- **Mix Flour:** Mix of different cereal flours
- **Conditioned Flour:** Wheat Flour In which additives and / or enzymes have been added
- **Wheat Flour for battering:** Flours are upgraded by the addition of certain substances, duly authorized and used in food flavoring
- **Fortified wheat Flour:** it is called like this after we have added some substance like proteins, amino acids, other protein derivatives, vitamins, minerals and essential fatty acids. This flour should also meet the requirements of these regulations, legislation on fortified foods
- **Strong Flour:** The extraction flour T-45 and T-55, exclusively from special wheat with minimum protein content of 11%, alveograph at least W 200, with 10% tolerance

SPANISH REGULATION ON WHEAT FLOURS

Technical specifications

	Max Moisture	Extraction (Type)	Ashes s.s.s. (%)	Ashes s.s.s. insolubles (in CIH 10%)	Protein min. content (dry basis)	Minimum W	Note
Bread Flour	15 %	T - 45	< 0,50	< 0,3	9 %		
	15 %		< 0,50	< 0,3	11 %	200*	Strong Flour
	15 %	T - 55	0,50 – 0,65	< 0,3	9 %		
	15 %		0,50 – 0,65	< 0,3	11 %	200*	Strong Flour
	15 %	T - 70	0,65 – 0,73	< 0,3	9 %		
	15 %	T - 75**	0,73 – 0,80	< 0,3	9 %		
Whole Flour	15 %		1,5 – 2,3	1,5 – 2,3			Fibre: 2 -3 %
Flour for fried dough	15 %		< 0,80	< 0,3			Typical Spanish Churros
Other edible uses	15 %		< 0,65	< 0,3			
Particle size	Bread flour - 90% pass under 180 micron – 98% pass under 212 micron						
Baking quality	W>80 – P/L <1,5						

NEDERLANDS REGULATION ON WHEAT and RYE FLOURS Technical specifications

WHEAT FLOUR TYPE	MAX MOISTURE	On 100% dry basis		Max Acidity	Protein, Gluten,
		ASHES			
		min	MAX		
Wheat flour flower	15,5		1,5	2,5	Not regulated
Wheat flour	15,5		2,2	4,5	
Whole wheat flour	15,5		2,2	4,5	
Durum semolina	15,5		1,5	4,5	
Whole durum semolina	15,5		2,2	4,5	
Rye flour flower	15,5		1,5	4,5	
Rye flour	15,5		2,2	4,5	
Wholemeal rye flour	15,5		2,2	4,5	

Legal Basis: Decree 341 - 4 june 1998

UK REGULATION ON WHEAT FLOURS

Technical specifications

Flour classification:

No classification on ash basis, the UK produce many “bespoke” flours. Any naming is generic such as “English baker”, “patent” etc.

National regulation on wheat flour:

The Bread & Flour Regulation (1998) acts on nutritional aspects and relates to adding back vitamins and minerals to white flour

Material of flour packaging:

Much UK flour is moved in bulk within tankers. Packaging as such ranges from 1 ton polypropylene sacks to paper sacks and bags.

Packaging ranges:

Sacks range from 25 kg., 16 kg., 10 kg. The 10 kg. size is popular with the smaller artisan bakers. Retail packaging for home use is 0,5 kg. to 1,5 kg.

SWITZERLAND REGULATION ON WHEAT and RYE FLOURS Technical specifications

WHEAT FLOUR TYPE	MAX MOISTURE	On 100% dry basis		Yield
		ASHES		
		min	MAX	
White flour Typ 400	14,5%		0,48	30%
White flour Typ 550	14,5%	0,49	0,63	65%
Half White flour Typ 720	14,5%	0,64	0,76	75%
Brown flour Typ 110	14,5%	1,00	1,15	85%
Wholemeal flour Typ 1900	14,5%	1,70	2,10	98-100% with germ

Legal Basis: Schweizer Lebensmittelbuch (SLMB 2004)

ITALIAN FLOUR PACKAGING

Small/Medium Size

Paper pack		Material		Packaging System	
Size	Percentage	Type	Percentage	Type	Percentage
0,5 kg.	7	Patinated paper 85 g./s.m.	10	Pre-packaged bags	40
1 kg.	70	White mono-polished kraft paper 75 g./s.m.	70	Printed rolls	60
5 kg.	20	Smoothed kraft paper 75 g./s.m.	20		
10 kg.	3				

Increasing use of PP + PE and PP + PPL pack

ITALIAN FLOUR PACKAGING

Big Size

Paper pack		Paper type	Type of Closure	
Size	Percentage	Semi-stretchable kraft paper white 80 g.	10 kg. to 40 kg.	Bag open mouth pinch bottom with pinch top closure
15 kg./12,5 kg.	5	Semi-stretchable kraft paper brown 70 g.	50 kg.	Valve bag
25 kg.	90			
50 kg./20 kg./40 kg.	5			

SOME NATIONS FLOUR MARKET

Form of sale

Pack size/bulk	Italy	Germany	Spain
0,5 kg./1kg./5 kg	16	7	3
10 kg. /15 kg./25 kg./50 kg.	27	13	37
Bulk	56	80	60

CUSTOMER QUESTIONNAIRE (from INDUSTRY to ITALIAN MILLERS)

Topic	Percentage of demand in contracts
Supplier data	100
Manufacturer data	100
Material data	100
Description of material	100
Special interest group suitability data	50
Food intolerance data	50
Cross contamination	100
Storage, Packaging and coding information	50
Nutritional data	70
Physical specification	100
Analytical specification	100
Microbiological specifications	90
Mycotoxin data	90
Food safety data	90
Foreign matter prevention	80
Standard requirements	80
Supplier testing laboratory details	60

ANALYTICAL SPECIFICATIONS (from INDUSTRY to ITALIAN MILLERS)

Parameter	Percentage of customers requiring the analysis
Moisture	100
Protein content	100
Ash content	100
Color / Particle size	30
Hagberg index	100
Gluten content/Gluten index	100
Alveograph	100
Farinograph	80
Estensograph	70
Amilograph	40
Viscosity	10
Fiber / Fats	20
Damaged starch	30
Specks	20
Acidity	10
Sedimentation test / Zeleny index	10
Reofermentograph / Bread evaluations	10
Filth Test/Microbiology /Mycotoxins(3 months)	100
Heavy metals/Pesticides (6 months)	100

FOOD SAFETY LEGAL BASIS

Contaminant	Max Value	Legal basis
Total Bacterial Count	100000 UFC/g.	Not binding (guiding values) APHA references
Enterobacteria	300 UFC/g.	
Total Coliform	100 UFC/g.	
Fecal Coliform	<10 UFC/g.	
Escherichia coli	<10 UFC/g.	
Coagulase staphylococci ⁺	<10 UFC/g.	
Bacillus Cereus	<50 UFC/g.	
Salmonella	Absent/50 g.	Binding Value (National basis)
Moulds	500 UFC/g.	Not Binding (guiding values) APHA references
Yeast	500 UFC/g.	
Total Aflatoxins	4 ppb	(CE) n. 1881/2006
Aflatoxin B1	2 ppb	
Ocratoxin A	3 ppb	
Deoxynivalenol	750 ppb	
Zearalenone	75 ppb	
Organochlorine pesticides	(CE) n. 396/2005 – (CE) n. 149/2008 and sub amend	
Organophosphate pesticides		
Pyrethroid pesticides		
Heavy metals (Pd, Cd)	(CE) n. 1881/2006	

REGULATION ON ADDITIVES

REGULATION (EC) No 1333/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on food additives

COMMISSION REGULATION (EU) No 1129/2011 of 11 November 2011 amending Annex II to Regulation (EC) No 1333/2008 of the European Parliament and of the Council by establishing a Union list of food additives

06.2.1 FLOURS				
E 338 - 452	Phosphoric acid - phosphates - di - tri- and polyphosphates	2500 ppm	(1) (4)	
E 338 - 452	Phosphoric acid - phosphates - di - tri- and polyphosphates	20000 ppm	(1) (4)	only self-raising flour
E 300	Ascorbic acid	QS		
E 301	Sodium ascorbate	QS		
E 302	Calcium ascorbate	QS		
E 920	L-cysteine	QS		

REGULATION ON ENZYMES

REGULATION (EC) No 1332/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on food enzymes

To date, not yet published the list provided by Reg. 1332/2008, shall continue to apply individual National and European standards only to enzymes reported in some sectoral measures such as those on food additives, on fruit juices and wine (Articles 18, 19, 20, 22 and 23 of the Regulation).

GMI
il primo ingrediente



THANK YOU