



# Program of glass products standardization in Russia



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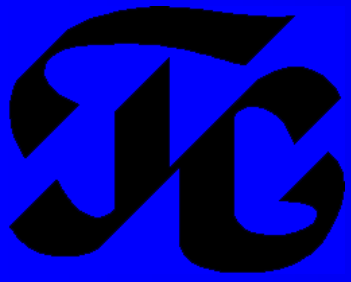
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GPD-2009

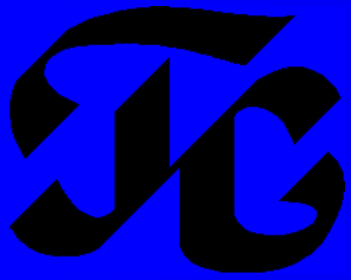
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# Introduction



Standards status	Standards quantity		
	ISO	CEN	Russia
Functional, from them:	61	70	38
- approved in 2005 – 2008	15	11	3
- approved before 1990 inc.	17	0	27
Newly developing and revising	21	20	1



# Standards development plan

62 National Standards in 2008-2011:

2008 – 1<sup>st</sup> redactions of 34 standard projects;

2009 – discussion, conforming and approval of  
34 standards;

2010 – 1<sup>st</sup> redactions of 28 standard projects;

2011 - discussion, conforming and approval of  
28 standards.



# Main goals of the standards development

creating of normative base for controlling of fulfillment of mandatory requirements to the glass concerning safety issues in application as provided by technical regulations,

standards harmonization in terms using and test methods,

new product types standardization,

maximum possible unification of technical requirements and test methods between Russian standards and ISO and CEN standards,

exclusion of obsolete requirements and test methods.



# Mandatory requirements to the glass (reference)



**Project of Russian law: Technical order “About  
safety of glass and its products used in buildings  
and constructions”**

**Olga A. Emelianova,  
Alexander G. Chesnokov**



# Revisions of the standards for the glass types



Flat colorless glass – in substitution of GOST 111-2001;

Patterned glass – in substitution of GOST 5533-86;

Wired glass (including polished) – in substitution of GOST 7481-78;

Tempered glass – in substitution of GOST 30698-2000;

Glass with low-emissivity hard coating – in substitution of GOST 30733-2000;

Glass with low-emissivity soft coating – in substitution of GOST 31364-2007;

Mirrors – in substitution of GOST 17716-91;

Laminated glass – in substitution of GOST 30826-2001, GOST R 51136-2008;

Insulated glass units – in substitution of GOST 24866-99, 52172-2003.



# New standards for the types of products



Flat tinted glass;

Heat-strengthened glass;

Chemically toughened glass;

Solar control glass with hard coating;

Solar control glass with soft coating;

Opaque glass;

Lacquered glass.





# Standardization rules in Russia (reference)



Particularities to standardization and certification of  
glass products in Russia

Olga A. Emelianova,  
Alexandre G. Tchesnokov



# Typical table of contents for the standard



Field of application;	Normative references;	Classification and basic dimensions;	Technical requirements and specifications;
Terms and definitions;	Marking rules;	Packaging rules;	Acceptance rules;
Control (test) methods;	Storage and handling;	Recommendations for application;	Safety requirements;
	Environment protection;	Manufacturer's warranty.	



# Organizational- methodological standards



Glass and glass products. Terms and definitions – new standard;

Glass and glass products. Defects. Terms and definitions – new standard;

Glass and glass products. Acceptance rules – new standard;

Glass and glass products. Marking, packaging, handling and storage – new standard.



# List of the standards in development



Картинка постера



# Climatic factors

maximum and minimum of air temperature,

temperature drops during a year or a day,

quantity of 0 °C transition during a year,

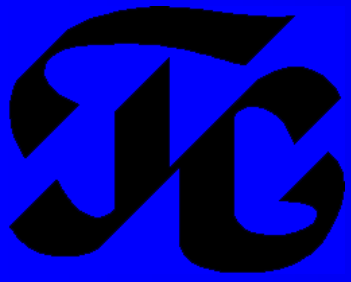
air humidity,

solar radiation intensity,

precipitation values,

force and direction of prevailing winds,

possibility and probability of hurricanes, earthquakes, floods.



# Climatic factors (reference)

Designing of high-rise building glazing for strict climatic conditions

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## Economical factors

possibilities for people and business to pay for applied materials and constructive decisions,

possibilities and conditions of building crediting and insurance.



# Technical factors

manufacturing capability of glass and its products producers,

builders technological capabilities to use such materials,

technical instrumentation of the manufacturers and customers by control,

technical equipment of testing centers and scientific laboratories.





## Cultural factors



the most prevailed types of the buildings (multistory or low-rise, stone or wood etc.),

aesthetic preferences of the people,

traditional priorities of the customers (which quality indexes are more or less important)



## Legal factors

product safety legislation,

protection of consumers' rights,

requirements to the contents and  
formatting of the standards



## Ecological factors



Environmental pollution in production, application and utilization of the glass products



# Progress of the program



From 62 standards planned to 2008 – 2011

In 2008 1<sup>st</sup> redactions of 34 standards were realized:

- 14 standards of “Specifications” and “General specifications” types for various flat glass products ;

- 18 standards for glass testing methods;

- 2 standards for characteristics calculation techniques.

In 2009 discussion of these projects is in progress.



# Harmonized standards



“Glass and glass products. Methods for determination of optical properties. Determination of light and solar characteristics” corresponds to ISO 9050:2003 Glass in building – Determination of light transmittance, solar direct transmittance, total solar energy transmittance, ultraviolet transmittance and related glazing factors.

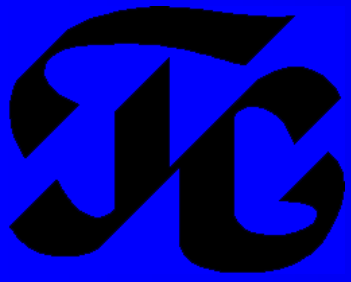
“Glass and glass products. Methods for determination of thermal characteristics. Calculation of thermal resistance” corresponds to EN 673:1998 Glass in building – Determination of thermal transmittance (U value) – Calculation method.

“Glass and glass products. Methods for determination of thermal characteristics. Determination of thermal resistance” corresponds to ISO 10293:1997 Glass in building – Determination of steady-state U values (thermal transmittance) of multiple glazing – Heat flow meter method.

“Glass and glazing. Methods for determination of sound insulation” corresponds to ISO/PAS 16940:2004 Glass in building – Glazing and airborne sound insulation – Measurement of mechanical impedance of laminated glass.

“Glass and glazing. Methods for wind loading resistance test” corresponds to ISO 16932:2007 Glass in building – Destructive-windstorm-resistant security glazing – Test and classification.

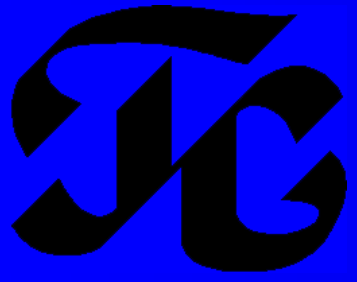
“Glass and glazing. Methods for blast effects resistance test” corresponds to ISO 16933:2007 Glass in building – Explosion-resistant security glazing – Test and classification by arena air-blast loading.



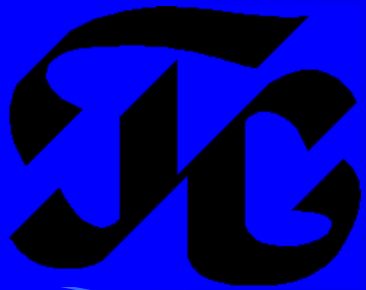
## Conclusions



Realization of this program of the Russian national standards development will allow to close normative base, applied in Russia, to international and European standards. This approximation includes both covered products types, requirements to them and test methods. In turn, it will make easier international cooperation in the field of manufacturing and applications of glass and its products.



Thank you for attention!



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