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Glass products standardization progress in CIS

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Standardization rules in Russia (reference)

Particularities to standardization and certification of glass products in Russia

Olga A. Emelianova,
Alexandre G. Tchesnokov

GPD-1999





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Climatic factors (reference)

Designing of high-rise building glazing for strict climatic conditions

Alexander G. Chesnokov,

Elena A. Cheremkhina

GPD-2007

16.06.2007





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Program of glass products standardization in Russia (reference)

Alexander G. Chesnokov,
Elena A. Cheremkhina,
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OAO "Glass Research Institute",
Moscow, Russia

GPD-2009

15.06.2009





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On the activity of the Russian Standardization Technical Committee TC “Glass” (reference)

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GPD-2011
19.06.2011





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News of glass products standardization in Russia

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GPD FINLAND 2013

14.06.2013





New CIS interstate standards approved in 2013

- In 2013 TC 41 “Glass” developed 32 new of CIS interstate standard:
 - 6 come to replace old acting standards
 - 26 are completely new standards
 - 17 are harmonized with ISO or CEN
 - 15 are original
 - 5 are specifications
 - 20 describe test methods
 - 7 are methodological standards





Specifications standards

| Standard number | Title | International harmonization | Replaced standard |
|------------------------|--|---|--------------------------|
| GOST 7481-2013 | Wired glass. Specifications | EN 572-3:2012 EN 572-6:2012 EN 572-8:2012 | GOST 7481-78 |
| GOST 32360-2013 | Matt glass. Specifications | | |
| GOST 32559-2013 | Painted glass. Specifications | | |
| GOST 32563-2013 | Adhesive backed polymeric filmed glass. Specifications | prEN 15755-1 | |
| GOST 5533-2013 | Patterned glass. Specifications | EN 572-5:2004, EN 572-8:2004 | GOST 5533-86 |





Test method standards

| Standard number | Title | International harmonization | Replaced standard |
|--------------------------------------|---|-----------------------------|-------------------|
| GOST 32357-2013 | Glass and glass products. Test method boiling (temperature resistance) | ISO 12543-4:2011 | |
| GOST 32564.2-2013 (ISO 16936-2:2005) | Glass and glass products. Test method for resistance to impact of hammer and axe | ISO 16936-2:2005 | |
| GOST 32564.1-2013 (ISO 16936-1:2005) | Glass and glass products. Test method for resistance to ball drop | ISO 16936-1:2005 | |
| GOST ISO 9385:2013 | Glass and glass products. Hardness determination method | ISO 9385:1990 | |
| GOST ISO 9385:2013 | Glass and glass products. Heat resistance determination methods | — | GOST 25535-82 |
| GOST 32557-2013 | Glass and glass products. Inspection methods for geometric parameters and appearance | — | |
| GOST 9900-2013 | Glass and glass products. Methods for determination of mechanical properties. Determination of elasticity modulus at cross static bending | — | GOST 9900-85 |
| GOST 32280-2013 | Glass and glass products. Methods for determination of mechanical properties. Determination of resistance to static load | — | |
| GOST 11067-2013 | Glass and glass products. Method for determination of mechanical properties. Determination of impact toughness | — | GOST 11067-85 |
| GOST 32540-2013 | Glass and glass products. Methods for determining the optical characteristics. Determination of the refractive index | — | |





Test method standards (continued)

| Standard number | Title | International harmonization | Replaced standard |
|------------------------------------|--|-----------------------------|-------------------|
| GOST 32278-2013 | Glass and glass products. Optical characteristics determination methods. Determination of colour coordinates | — | |
| GOST 32281.2-2013 (EN 1288-2:2000) | Glass and glass products. Determination of the bending strength. Coaxial double ring test on flat specimens with large test surface areas | EN 1288-2:2000 | |
| GOST 32281.5-2013 (EN 1288-5:2000) | Glass and glass products. Determination of the bending strength. Coaxial double ring test on flat specimens with small test surface areas | EN 1288-5:2000 | |
| GOST 32281.3-2013 (EN 1288-3:2000) | Glass and glass products. Determination of the bending strength. Test with specimen supported at two points (four point bending) | EN 1288-3:2000 | |
| GOST 32281.1-2013 (EN 1288-1:2000) | Glass in building – Determination of the bending strength of glass – Part 1: Fundamentals of testing glass | EN 1288-1:2000 | |
| GOST EN 13541-2013 | Glass and glass products. Explosion resistance test method | EN 13541:2000 | |
| GOST 32566-2013 | Glass and glass products. Test method of bullet resistance | | |
| GOST 32362-2013 | Inorganic glass and glass-crystalline materials. Determination of chemical composition. General requirements for methods of determining the content of major chemical components | | |
| GOST 32562.2-2013 (EN 1096-2:2012) | Coated glass. Test methods for class A, B, S coatings | EN 1096-2:2001 | |
| GOST 32562.3-2013 (EN 1096-3:2012) | Coated glass. Test methods for class C and D coatings | EN 1096-3:2001 | |





Methodological standards

| Standard number | Title | International harmonization | Replaced standard |
|---------------------------------------|---|-----------------------------|---------------------------------|
| GOST 32530-2013 | Glass and glass products. Marking, packing, transportation, storage | — | |
| GOST 32361-2013 | Glass and glass products. Visual faults. Terms and definitions | — | |
| GOST 32298-2013 (EN 12603:2002) | Glass and glass products. Procedures for goodness of fit and confidence intervals for Weibull distributed glass strength data | EN 12603:2002 | |
| GOST 32529-2013 | Glass and glass products. Acceptance rules | — | |
| GOST 32539-2013 | Glass and glass products. Terms and definitions | — | Comecon St. / CT СЭВ 2439-80 |
| GOST 32562.1-2013 (EN 1096-1:2012) | Coated glass. Classification | EN 1096-1:1998 | |
| GOST 32562.4-2013 (EN 1096-4:2004) | Coated glass. Acceptance rules | EN 1096-4:2004 | |





30 new GOST standards were developed during 2013 – 2014 and now they are officially active

- ✦ 25 standards in substitution of discontinued ones
- ✦ 5 new standards
 - 21 are harmonized with ISO or CEN
 - 9 are original ones
 - 11 are specifications
 - 17 describe test methods
 - 1 methodological
 - 1 formalize calculation methods





GOST for the product types

| Standard number | English Title | Harmonization | Replaced standard | Repealed standard |
|-----------------|--|--|-------------------|---|
| GOST 17716-2014 | Mirrors. General specifications | EN 1036-1:2007 | GOST 17716-91 | GOST R 54161-2010 |
| GOST 30698-2014 | Tempered glass. Specifications | EN 12150-1:2000, EN 12150-2:2004 | GOST 30698-2000 | GOST R 54162-2010 |
| GOST 32997-2014 | Tinted flat glass. General specifications | EN 572-8:2004 | | GOST R 54169-2010 |
| GOST 111-2014 | Clear flat glass. Specifications | EN 572-8:2004 | GOST 111-2001 | GOST R 54170-2010 |
| GOST 30826-2014 | Laminated glass. Specifications | EN ISO 12543-4:1998, EN ISO 12543-5:1998, EN ISO 12543-6:1998, ISO 16933-2007 | GOST 30826-2001 | GOST R 54171-2010; GOST R 51136-2008 |
| GOST 24866-2014 | Sealed insulating glass units. Specifications | EN 1279-1:2004, EN 1279-2:2002, EN 1279-3:2002, EN 1279-4:2002, EN 1279-6:2002 | GOST 24866-99 | GOST R 54175-2010 |
| GOST 31364-2014 | Soft coating low emissivity glass. Specifications | EN 1096-1:1998, EN 1096-3:2001, EN 1096-4:2004 | GOST 31364-2007 | GOST R 54176-2010 |
| GOST 30733-2014 | Hard coating low emissivity glass. Specifications | EN 1096-1:1998, EN 1096-2:2001, EN 1096-4:2004 | GOST 30733-2000 | GOST R 54177-2010 |
| GOST 33086-2014 | Soft coating solar protection or decorative glass. Specifications | EN 1096-1:1998, EN 1096-3:2001, EN 1096-4:2004 | | GOST R 54178-2010 |
| GOST 33017-2014 | Hard coating solar protection or decorative glass. Specifications | EN 1096-1:1998, EN 1096-2:2001, EN 1096-4:2004 | | GOST R 54179-2010 |
| GOST 33087-2014 | Heat strengthened glass. Specifications | EN 1863-1:2000, EN 1863-2:2000 | | GOST R 54180-2010 |



GOST for the test methods

| Standard number | English Title | Harmonization | Replaced standard | Repealed standard |
|---------------------------------------|---|---|-------------------|---------------------------------------|
| GOST 32996–2014 | Glass and glass products. Test methods for resistance to climatic exposure. Frost resistance test method | | | GOST R 54163-2010 |
| GOST EN 410–2014 | Glass and glass products. Optical characteristics determination methods. Determination of luminous and solar characteristics | EN 410:2011 | | GOST R 54164-2010 (ISO 9050:2003) |
| GOST EN 675–2014 | Glass and glass products. Thermal properties determination methods. Thermal resistance determination method | EN 675:2011 | | GOST R 54165-2010 (ISO 10293:1997) |
| GOST EN 12898–2014 | Glass and glass products. Thermal properties determination methods. Determination of the emissivity | EN 12898:2001 | | GOST R 54168-2010 |
| GOST 30779-2014 | Insulating glass units. Method of determination of life circle | EN 1279-2:2002 | GOST 30779-2001 | GOST R 54172-2010 |
| GOST 32998.4–2014 (EN 1279-4:2002) | Insulating glass units. Methods of test for the physical attributes of edge seals | EN 1279-4:2002 | | GOST R 54173-2010 (EN 1279-4:2002) |
| GOST 32998.6–2014 (EN 1279-6:2002) | Insulating glass units. Methods and rules of products quality assurance | EN 1279-6:2002 | | GOST R 54174-2010 (EN 1279-6:2002) |
| GOST 33088–2014 | Glass and glass products. Test method for resistance to humidity | | | GOST R 54181-2010 |
| GOST 32999–2014 | Glass and glass products. Salt spray test method | | | GOST R 54182-2010 |
| GOST 33089–2014 | Glass and glass products. Test method for resistance to UV-radiation | | | GOST R 54183-2010 |
| GOST 33000–2014 | Glass and glass products. Fire resistance test method | ISO 834–1:1999, EN 1363–1:1999, EN 1363– 2:1999, EN 13501–2:2007 | | GOST R 54495-2011 |
| GOST ISO 16932:2014 | Glass and glass products. Destructive-windstorm-resistant security glazing. Method of testing and classification | ISO 16932:2007 | | GOST R ISO 16932:2011 |
| GOST 33090–2014 (ISO 16940:2008) | Glass and glazing. Sound insulation determination method | ISO 16940:2008 | | GOST R 54327-2011 (ISO 16940:2008) |
| GOST 33001–2014 | Glass and glass products. Methods for determination of mechanical properties. Test for abrasion resistance | | | – |
| GOST 33002–2014 | Glass and glass products. Methods for determination of mechanical properties. Tests for breakage pattern | | | – |
| GOST 33003–2014 | Glass and glass products. Methods for determination of optical distortions | | | – |
| GOST 10978–2014 | Glass and glass products. Method for determination of temperature coefficient of linear expansion | | GOST 10978–83 | – |





GOST for the methodological и calculation methods

| Standard number | English Title | Harmonization | Replaced standard | Repealed standard |
|---------------------|---|----------------|-------------------|---------------------------------------|
| GOST 33004–2014 | Glass and glass products. Properties. Terms and definitions | | | — |
| GOST ISO 14438–2014 | Determination of energy balance value. Calculation method | ISO 14438:2002 | | GOST R 54167-2010 (ISO 14438:2002) |





Standard projects availability

- Texts of the standard projects on Russian available through TC 41 website <http://tc41.ru>
- All new versions of developing Russian and interstate standards will be available on the website too (on Russian language).





New CIS interstate standards developed in 2014-15

| # | English Title | Harmonization |
|----|---|----------------------|
| 1 | Heat soaked thermally toughened glass. Specifications | EN 14179-1:2005, IDT |
| 2 | Heat soaked thermally toughened glass. Evaluation of conformity | EN 14179-2:2005, IDT |
| 3 | Thermally toughened alkaline earth silicate glass. Technical requirements | EN 14321-1:2005, IDT |
| 4 | Thermally toughened alkaline earth silicate glass. Evaluation of conformity | EN 14321-2:2005, IDT |
| 5 | Glass and glass products. Test method for resistance to impact dual-tyres | EN 12600:2002, IDT |
| 6 | Glass and glass products. Test method for resistance to soft body | — |
| 7 | Glass and glass products. Sound insulation values | EN 12758:2011, IDT |
| 8 | Glass and glass products. Glass handling safety requirements | — |
| 9 | Glass and glass products. Application guidelines | — |
| 10 | Self-cleaning coated glass. Specifications | — |





Plans for 2015-2016

| # | English Title | Harmonization |
|----|--|-------------------------|
| 1 | Thermally toughened safety glass panes for windows and side scuttles. Specifications | ISO 21005:2012 |
| 2 | Enamelled thermally toughened glass. Specifications | — |
| 3 | Glass and glass products. Determination of thermal transmittance (U value). Calculation method | EN 673:2011 |
| 4 | Glass and glass products. Determination of thermal transmittance (U value). Guarded hot plate method | EN 674:2011 |
| 5 | Curved glass. Terms and definitions | ISO 11485-1:2011 |
| 6 | Curved glass. Technical requirements | ISO 11485-2:2011 |
| 7 | Curved glass. Requirements for curved tempered and curved laminated safety glass | ISO 11485-3:2014 |
| 8 | Glasses for liquid level indicators. Specifications | Supersedes GOST 1663-81 |
| 9 | Borosilicate glass. Technical requirements | EN 1748-1-1:2004 |
| 10 | Glass ceramics. Technical requirements | EN 1748-2-1:2004 |
| 11 | Soda lime silicate glass. Technical requirements | EN 572-1:2012 |
| 12 | Alkaline earth silicate glass. Technical requirements | EN 14178-1:2004 |





Cooperation within the CIS space

- Foundation of the Interstate technical committee for the glass and glass products standardization on the TC 41 basis. Azerbaijan, Armenia, Kirgizstan, Moldova, Ukraine and organizations from Belorussia, Kazakhstan and Russia are ready to work.
- Development of the CIS interstate standards on the GOST R, ISO, EN basis





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Thank you for attention!





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