COSENTINO

Technical Conditions for Facades (TCF)

SILESTONE

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DEKTON

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SENSA

TECHNICAL CONTENT

1. Dekton® plate: specifications and finishes

The technical specifications of the Dekton panel are included in the Cosentino Facades Manual - Cosentino Facade Fixing Systems, rev. 06 (June 2021) or later version. Performance may vary slightly depending on the technical family of finishes chosen (families I, II, III and IV), so it is recommended to analyze the performance per family before final selection.

The four finish families are listed in Annex N of the European Technical Assessment ETA 14/0413 dated 20.07.2020 or later version, issued by the European laboratory ITEC. The performances of each family of finishes are listed in the document "Statement of Performance No. 092013DK", updated as of January 2019 or later version.

The environmental impact of the Dekton panel is included in the Environmental Product Declaration DAP. S-P-00916 - version 2, updated on 09/12/2021 or later version.

The color stability of Dekton finishes has been evaluated by accelerated aging tests. The results are reported in the Cosentino Facades Manual - Cosentino Facade Fixing Systems, rev. 06 (June 2021) or later version.

The specifications of the Dekton facade system when used as a ventilated facade with mechanical fixings are contained in the European Technical Assessment ETA 14/0413 dated 20.07.2020 or later version, issued by ITEC. The system designer should follow sections 1, 2 and 3 of that document for the technical description of the system, its specifications for use and its performance.

If the solution proposed by the author of the project is different from those included in the Cosentino Facades Manual - Cosentino Facade Fixing Systems, Cosentino's recommendation is to carry out the verification tests included in the following US cladding standards: ASTM C1026 (freeze-thaw cycling); ASTM C880 (flexural strength); ASTM C1354 (anchorage strength); ASTM E330 (transverse wind load); ASTM E136 (non-combustibility) and ASTM E84 (tile surface burning). Also, for high-wind prone areas, the following two protocols for High Velocity Hurricane Zone may apply: 1) TAS 202-94: Criteria for Testing Impact and Nonimpact Resistant Building Envelope Components Using Uniform Static Air Pressure Loading; and 2) TAS 203-94: Criteria for Testing Products Subject to Cyclic Wind Pressure Loading.

2. Limitations on use, cutting, handling, assembly and transportation

The recommended finish for the edges of Dekton panels depends on the possible expected impact on the pieces. See table of recommendations in the Cosentino Facades Manual - Cosentino Facade Fixing Systems, rev. 06 (June 2021) or later version.

The use of L-shaped or U-shaped Dekton flat pieces for facades is not recommended, due to the concentration of stresses in the inside corners. See the Cosentino Facades Manual - Cosentino Facade Fixing Systems, rev. 06 (June 2021) or later version.

For the opening of holes in panels, pre-drilling must be carried out at the corners of the hole. The minimum distances between the openings and the edge of the panel must be respected. See the Cosentino Facades Manual - Cosentino Facade Fixing Systems, rev. 06 (June 2021) or later version.

Three-dimensional pieces can be made by mechanically assembling return pieces with straight or beveled edges in ventilated facades. See limitations in the Cosentino Facades Manual - Cosentino Facade Fixing Systems, rev. 06 (June 2021) or later version.

Corners between adjoining facades can be executed as indicated in the Cosentino Facades Manual - Cosentino Facade Fixing Systems, rev. 06 (June 2021) or later version.

3. Impact class

Dekton facade surfaces have an impact resistance that varies according to their thickness and family. This value is stated in section 3.5 of Dekton European Technical Assessment ETA 14-0413 dated 18.01.2022. The panels have been subjected to a series of hard body and soft body impacts at different energy levels. The results classify Dekton in impact category IV for thicknesses of 12mm or 20mm.

- Category IV: The degree of exposure to the use must be an area out of reach from ground level.

The responsibility for the decision of the facade construction solution that is finally adopted in a specific project lies with the technician responsible for the project.

4. Fasteners inserted in the Dekton® plate with their limitations of use

The Dekton panel for facades allows several mechanical fastening systems to the substructure. The fastening systems can be hidden (DKT1, DKT2 and DKT3) or visible (DKT4 and DKR). There are also chemical bonding systems (DKC), mixed (DKCLIP), using cementitious adhesives (DKB) or on exterior insulation type EIFS (DKS). Not all of these fastening systems are valid for ventilated facades. See limitations in the Cosentino Facades Manual - Cosentino Facade Fixing Systems, rev. 06 (June 2021) or later version.

The instructions and limitations for the use of each type of fastening on the back of the panel, contained in the Cosentino Facades Manual - Cosentino Facade Fastening Systems, rev. 06 (June 2021) or later version, as well as in the corresponding ETA standards, must be followed:

→ DKT1 System: Manual and Annex 2 of ETA 14/0413
→ DKT2 System: Manual and Annex 2 of ETA 14/0413
→ DKT3 System: Manual and Annex 2 of ETA 14/0413
→ DKT4 System: Manual,
→ DKR System: Manual,
→ DKCLIP System: Manual,
→ DKC System: Manual,
→ DKB System: Manual,
→ DKS System: Manual

In the event that the fixing solution proposed by the author of the project or by the Facade Contractor is different from those listed in the Cosentino Facades - Cosentino Facade Fixing Systems Manual, Cosentino's recommendation is to carry out the verification tests listed in the following US cladding standards: ASTM C1026 (freeze-thaw cycling); ASTM C880 (flexural strength); ASTM C1354 (anchorage strength); and ASTM E330 (transverse wind load). Also, for high-wind prone areas, the following two protocols for High Velocity Hurricane Zone may apply: 1) TAS 202-94: Criteria for Testing Impact and Nonimpact Resistant Building Envelope Components Using Uniform Static Air Pressure Loading; and 2) TAS 203-94: Criteria for Testing Products Subject to Cyclic Wind Pressure Loading.

5. Bonded type plate fasteners

For bonded fasteners, whether chemical (DKC), mixed (DKCLIP), using cementitious adhesives (DKB) or on exterior insulation type EIFS (DKS), the installer must scrupulously follow all the criteria and limitations of design, calculation, installation patterns, cleaning, surface preparation, pre-priming, bonding process, tapes and temperature of use indicated in the Dekton Manuals and in the technical documentation of the adhesive suppliers.

The installer must request the technical documentation from the adhesive supplier and its auxiliary elements for each gluing system, as these products are not manufactured by Cosentino.

6. Plate support substructure and anchorages with their limitations of use

The general indications for the substructure and its anchorage to the main building structure as given in the Cosentino Facades Manual - Cosentino Facade Fixing Systems, rev. 06 (June 2021) or later version should be followed.

Likewise, for ventilated facades, the general indications for the substructure and its anchorage to the main building structure contained in the Cosentino Facades Manual as well as in Annex 4 of European Technical Assessment ETA 14/0413, issued on 20.07.2020, must be followed.

The joints between facade panels must respect the structural and thermal movement joints of the building, as recommended in the Cosentino Facades Manual - Cosentino Facade Fixing Systems, rev. 06 (June 2021) or later version.

7. Other materials supplied by Cosentino with their limitations of use

Cosentino may provide the customer with materials not manufactured by Cosentino but which are part of the facade design such as fasteners, glues, adhesives, structural profiles, anchors or thermal insulation elements, among others. In this case, it is the sole responsibility of the customer to use such materials in accordance with the technical instructions provided by the companies supplying them.

Cosentino is not responsible for the customer's potential failure to follow the technical data sheets, product specifications and limitations of use of materials manufactured by other companies and supplied by Cosentino for use in facades.

8. On site installation

The instructions and recommendations in the Cosentino Facades Manual - Cosentino Facade Fixing Systems, rev. 06 (June 2021) or later version shall be followed.

Likewise, for ventilated facades, the general installation instructions contained in the Cosentino Facades Manual as well as in Annex 4 of European Technical Assessment ETA 14/0413, issued on 20.07.2020, must be followed.

9. Reaction to fire and fire transmission through the air gap

Within the limit of liability fixed in the contract, an aggregate limit of USD100,000 (or equivalent amount in the contract currency) shall apply in respect of claims relating to the combustibility of facade panels or cladding, the insulation material and its fastening systems, or claims relating to the fire safety of any air gap barrier or compartmentation (or lack thereof) in the building facade.

10. Quality requirements (QA/QC)

It is the responsibility of the author of the project to specify the quality requirements for the execution of the facade, including dimensional requirements, flatness, tests, samples, etc. The quality requirements to be met will depend on the geography where the project is located.

If the project drawn up by the architect does not include specific quality requirements for facades, and the requirements to be followed by the Facade Contractor are not indicated, Cosentino will follow the quality requirements contained in the Cosentino Facades Manual - Cosentino Facade Fixing Systems, rev. 06 (June 20201). In the absence of other regulations, Cosentino recommends the Facade Contractor to follow the quality criteria of the Centre for Window and Cladding Technology (CWCT Guide to good practice for facades: Quality).

In particular, Cosentino requires prior validation of production drawings by the customer, as well as of the final product, before loading and shipping.

Cosentino's quality team will check the final product following its internal quality controls, and eventually may provide support in the reception of the piece/material by its technicians for each project.

11. Maintenance and cleaning of facades

It is the responsibility of the author of the project to specify the maintenance and cleaning requirements of the facade during its useful life. In any case, Cosentino recommends following the requirements for final cleaning, maintenance, cleaning and conservation set out in the document Dekton® - Facade Maintenance and Cleaning.

12. Reference standards according to zone

It is the responsibility of the project author to specify the reference standards to be followed in the development of the facade solutions, including among others the requirements for wind load, impact resistance, fasteners, durability, fire reaction and resistance, etc. The technical standards to be met will depend on the geography where the project is located.

If the project drawn up by the architect does not include a specific standard for facades, and the standard to be followed by the Facade Contractor is not indicated, Cosentino will follow the following US cladding standards: ASTM C1026 (freeze-thaw cycling); ASTM C880 (flexural strength); ASTM C1354 (anchorage strength); ASTM E330 (transverse wind load); ASTM E136 (non-combustibility) and ASTM E84 (tile surface burning). Also, for high-wind prone areas, the following two protocols for High Velocity Hurricane Zone may apply: 1) TAS 202-94: Criteria for Testing Impact and Nonimpact Resistant Building Envelope Components Using Uniform Static Air Pressure Loading; and 2) TAS 203-94: Criteria for Testing Products Subject to Cyclic Wind Pressure Loading.

13. Health and Safety (H&S) requirements

It is the responsibility of the project author to specify the health and safety requirements to be followed in the development of the facade solutions. These requirements will depend on the country where the project is located.

If the project drawn up by the architect does not include health and safety requirements for facades, nor are they indicated by the Facade Contractor, Cosentino will follow the health and safety requirements indicated in the Cosentino Facades Manual - Cosentino Facade Fixing Systems, rev. 06 (June 2021) or later version.

14. Responsibility

Engineering, site support and installation services (if any) are services for which Cosentino is liable only when an additional order is placed for such services and the corresponding amount is paid. In this case, Cosentino's civil liability (general and professional) to the Customer is limited to the amount invoiced for such services.

15. The Dekton® brand

Only those facade elements that have been manufactured exclusively from Dekton construction components in accordance with the current Cosentino facade manuals may bear the Dekton mark. The use of construction components other than those recommended by Cosentino in its manuals will render this entitlement invalid. In addition, Dekton test reports that apply to such units will no longer be valid.

16. Complementarity of these conditions

These Technical Conditions for Facades are complementary to, but do not replace, Cosentino's General Conditions of Sale and Conditions for the Provision of Services, in the version in force at the time of the prescription or sale. The three documents are applicable to the ancillary services of facade prescription, consultancy and installation.

COSENTINO

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