

Test reports on PSS products – Summary

Certification

PSS 20

- ⇒ RAL Certification as sacrificial graffiti protection system: PSS 20 is RAL-GZ 821/2 certified since 2000
- ⇒ BAST homologation as a sacrificial graffiti protection system: PSS 20 is homologated by BAST (Bundesamt für Strassenwesen – Federal Institute for Road Affairs Germany) as a sacrificial graffiti protection system since 12.10.2000

PSS ING

- ⇒ RAL Certification as semi-permanent graffiti protection system: PSS 20 is RAL-GZ 821/2 certified since 2006
- ⇒ BAST homologation as a semi-permanent graffiti protection system: PSS 20 is homologated by BAST (Bundesamt für Strassenwesen – Federal Institute for Road Affairs Germany) as a semi-permanent graffiti protection system since 2006

Faceal Oleo impregnations

- ⇒ RAL Certification as permanent graffiti protection system: Faceal Oleo HD is RAL-GZ 821/2 certified since 2005 ('permanent' means that after the removal of graffiti the protection does not have to be reapplied). For the RAL certification as a permanent system 5 graffiti removals within about 10 days at the same place must be possible.
- ⇒ BAST homologation as a sacrificial graffiti protection system: Faceal Oleo HD is homologated by BAST (Bundesamt für Strassenwesen – Federal Institute for Road Affairs Germany) as a permanent graffiti protection system since 2005. For the BAST homologation 10 graffiti removals within about 20 days must be possible.

VVP10

- ⇒ RAL Certification as sacrificial graffiti protection system: VVP 10 is RAL-GZ 821/2 certified since 2000
- ⇒ BAST homologation as a sacrificial graffiti protection system: VVP 10 is homologated by BAST (Bundesamt für Strassenwesen – Federal Institute for Road Affairs Germany) as a sacrificial graffiti protection system since 12.10.2000

VVP ING

- ⇒ RAL Certification as semi-permanent graffiti protection system: VVP 10 is RAL-GZ 821/2 certified since 2006

- ⇒ BAST homologation as a semi-permanent graffiti protection system: VVP 10 is homologated by BAST (Bundesamt für Strassenwesen – Federal Institute for Road Affairs Germany) as a semi-permanent graffiti protection system since 2006.

AR chemical graffiti removers

- ⇒ RAL Certification as graffiti removers: AR 9000, AR 8000, AR 700 and AR 628 are RAL-GZ 821/1 certified since 2000

PSS 20

Short description: Made of natural, chemically unchanged polysaccharides of plants and of water. Forms a 20-30 micron thin protective film on the surface. Fully reversible, sacrificial graffiti protection system. Normally not visible at all. Graffiti removal by means of hot water. More than 6'000'000 m² of buildings surfaces in Europe protected with PSS 20 since 1991. Used for many famous historical and contemporary buildings (see separate reference lists).

- ⇒ Polysaccharides as sacrificial coatings
- ⇒ EMPA Switzerland: Report no. 155 194 of 25.04.1997 – determination of water vapour diffusion. Sd-value according to DIN 52 615: 0.012 metre which means no impediment at all.
- ⇒ LPM AG (Building Materials Testing Institute) Switzerland: Report no. A-13'041-1 of 18.03.1993 – determination of (aye) water absorption (DIN 52617 modified) (bee) carbon dioxide diffusion (Klopfer-Engelfried) (cee) protection against salt contained in melted snow / ice (SN/VSS 6640 461).
 - (aye) A slight reduction of water absorption compared to non treated concrete
 - (bee) A good protection against the penetration of CO₂ equal to a concrete varnish
 - (cee) A protective effect against the impact of saltwater (salt contained in water from melted snow and ice) compared with a non-treated concrete
- ⇒ BAM Federal Institute of Materials Research and Testing Germany: Report no. 3.14/3441/91 of 07.02.1992 – functionality tests: 'Removal of graffiti paint was accomplished free of residue right down into the pores of the respective surfaces'
- ⇒ DB AG (German Railways) – test report carried out by the Research and Technology Centre Munich, Department 'Acoustics': Report dated 20.02.1998 – determination of changes of the sound absorption capacity of sound protection walls. 'It may be assumed from this that a double spraying with PSS 20 can be applied without hesitation'.
- ⇒ SNCB Belgian State Railways: Report no. 90304 dated 23.06.1999 – determination of various aspects important for the PSS 20 use for railway buildings.
 - (aye) functionality: Not a single shadow any more
 - (bee) weathering/aging: After ageing (UV, temperature shock, tropical tests) the anti-graffiti properties remain.
- ⇒ University of Oldenburg, Prof. Krumbein – evaluation of microbiological aspects of different graffiti protection systems in connection with the application of PSS 20 on the Brandenburg Gate in Berlin carried out in 1991-1992 and published in

'Bautenschutz + Bausanierung' no. 16/1993 (also published in New Scientist, UK). Result: PSS 20 is the right product for the Brandenburg Gate (first PSS 20 application in 1991, reapplication in 1994, 1997, 2002, 2005 – the gate is kept free of graffiti since 1991 by PSS Interservice GmbH in Berlin).

- ⇒ Rheinisch-Westfälische Technische Hochschule Aachen Germany – report on PSS 20 dated 30.09.1991 by Dr.-Ing. Martin Werner – positive evaluation of functionality, optical characteristics, water steam permeability, environment and health hazards (none).
- ⇒ INIEX Belgium – report no. NF X 70-100 of 04.06.1989: No toxic gases when the PSS 20 film is destroyed by heat.
- ⇒ CEBTP France report no. B212.0.022 of 10.09.2001 on PSS 20 with Faceal Oleo finish for sound protection walls. The results show that the PSS 20/Faceal Oleo protection has virtually no negative effect on the absorption value for both the road noise as well as for the rail traffic noise'.
- ⇒ Stockholm Konsult Sweden, Report no. 2297776 of 17.10.1996: PSS 20 tested in connection with the Wacker 1702/Conservado 100 – test of product for concrete surface treatment as specified in BRO 94, chapter 43.772. The requirements are detailed in Publ. 1994:2.
- ⇒ PSS 20 Manual

Also available:



- ⇒ KEIMFARBEN: Several compatibility tests have been carried out with KEIMFARBEN (head office in Germany) demonstration that PSS 20 is compatible with the traditional, full mineral paints. KEIMFARBEN recommends PSS 20 and the PSS group for more than 10 years.
- ⇒ SIKA: Several compatibility tests have carried out with SIKA concrete paints (head office in Switzerland, in Holland, in Germany). SIKA recommends PSS 20 and the PSS group for more than 10 years.
- ⇒ KME (Europe), Germany: KME as largest copper plate manufacturers (Tecu" plates) recommends PSS 20 and the PSS group for many years.
- ⇒ James & Taylor Ltd. KT3 3QW New Malden recommends PSS 20 and the PSS group for many years.
- ⇒ MOEDING / GIMA Grinhuber group Germany (ceramic façades): Recommends PSS 20 and the PSS group for many years.
- ⇒ Hofmann Natursteinwerke Germany (largest German natural stone company): Recommends PSS 20 and the PSS group for many years.
- ⇒ Keller AG Ziegeleien Switzerland (largest clay bricks/stones manufacturer of Switzerland): recommends PSS 20 and the PSS group for many years.

Faceal Oleo impregnations

Short description - Faceal Oleo: Oil, grease and water repellent impregnations reducing the surface tension within the pores and capillaries to below 18 mN/m. Water based, solvent free product; not reversible and not visible. Good self cleaning effect through rain on vertical and tilted surfaces. Active molecules are of nano size. Used as dirt protection for porous surfaces.

Short description - Faceal Oleo HD (heavy duty): Oil, grease, water and solvent repelling impregnation reducing the surface tension to below 10 mN/m. The protective part (CF3 end of fluorinated side chain) is placed on top of this nano active molecule thanks to the alignment of these molecules (like self assembling mono layers). Chemically united with the mineral substrate thanks to the silan part of the molecule. Modern, water based and solvent free and not visible product using latest nano technology. Used as dirt and graffiti protection for porous, mineral substrates; also well suited for floors. High degree of self cleaning through rain particularly on vertical and tilted surfaces but also on horizontal surfaces.

- ⇒ LPM Switzerland, test report no. A-29'273-1E of 16.08.2005 – determination of water steam permeability (diffusion) according to DIN 52615 mod.: Sd-value – 0.3 metre. The result showing better values of the protected concrete than of the untreated concrete indicates that any change of the permeability (if any) is so minute that it lies within the tolerance of the testing system.
- ⇒ LPM Switzerland, test report no. A-22'405-1 of 26.09.2000 – tested values: Water absorption coefficient w (DIN 52617 mod.), Carbon dioxide diffusion (Klopfer-Engelfried method), Frost-thaw saline resistance (SIA 162/5). Faceal Oleo is characterised by a good protective function against the penetration of water and from the pollutants dissolved in it. At the same time, the resistance to frost-thaw is increasing significantly.
- ⇒ Müller-BBM, test report no. 55 519/1 of 20.05.2003 – determination of the sound absorption coefficient in the impedance pipe according to DIN EN ISO 10534-2: 'Faceal Oleo HD anti-graffiti impregnation did not impair the sound absorption of the Lisaphone noise protection walls from wood concrete and basalt from foam cement at the material application of approx. 200 g/m² (wet material)'.
- ⇒ ILF Magdeburg Germany, test report no. 1-005/2003 of 28.05.2003 – 1'000 hours and 2'000 hours weather exposure – adhesion, durability tests. 'The characteristics for adhesion and durability remained unchanged' (see under 'Faceal Colour')
- ⇒ CEBTP Centre experimental de Recherches et d'études du bâtiments et des travaux publics France, test report no. 99/B 182-6-603-2 of 18.08.1999 on Faceal Oleo – determination of water repellent characteristics after artificial ageing simulating 10 years: 'For the Saint Vaast lès Melo stone, which showed no reduction in the efficiency of the treatment, we can expect a duration largely superior of ten years.' 'For the Truffeau stone where only 2 of the 3 tubes showed an efficiency superior to 97.4 %, we can expect a duration of optimal efficiency equal to ten years.
- ⇒ BIA Berufsgenossenschaft Institut für Arbeitssicherheit Germany, test report no. 1999 22 649 / 3210 of 31.08.1999 – skidding test for application on floors: The influence of FACEAL OLEO on the non-slip finish of floor coverings was tested in Summer 1999 by the BIA (Institute of Industrial Safety of the Social Insurance Institutions for Occupational Accidents), St. Augustin, Germany. In the course of

the testing procedures of the BIA, after treatment with FACEAL OLEO the non-slip finish always remained in the range of the classifications regarded as non-slip (R9 and better). By the use of FACEAL OLEO, soiling that reduces the anti-slip effect can be removed significantly faster and more thoroughly.

⇒ Faeal Oleo Manual

Also available:

- ⇒ KME (Europe), Germany: KME as largest copper plate manufacturers (Tecu[®] plates) recommends the Faceal Oleo impregnations and the PSS group for many years.
- ⇒ James & Taylor Ltd. KT3 3QW New Malden recommends the Faceal Oleo impregnations and the PSS group for many years.
- ⇒ MOEDING / GIMA Grinhuber group Germany (ceramic façades): Recommends the Faceal Oleo impregnations and the PSS group for many years.
- ⇒ Hofmann Natursteinwerke Germany (largest German natural stone company): Recommends the Faceal Oleo impregnations and the PSS group for many years.
- ⇒ Keller AG Ziegeleien Switzerland (largest clay bricks/stones manufacturer of Switzerland): recommends the Faceal Oleo impregnations and the PSS group for many years.

Faceal Colour

Faceal Colour is a pigmented, multifunctional glaze based on the impregnation Faceal Oleo HD. It is on the one hand an oil-/grease and water repellent impregnation and on the other hand a pigmented glaze. 23 standard RAL colours are readily available; other RAL colours or indeed nearly any type of colour can be created.

- ⇒ Faceal Colour technical brochure
- ⇒ ILF Magdeburg Germany, test report no. 1-005/2003 of 28.05.2003 – 1'000 hours and 2'000 hours weather exposure – adhesion, durability tests. 'The characteristics for adhesion and durability remained unchanged'.
- ⇒ ILF Magdeburg Germany, test report no. 1-046/2002 of 20.03.2003 – tested values: Water absorption DIN EN 1062-3, wash- and scrub resistance DIN 53 778, 1'000 hours weather exposure – adhesion, durability tests. 'The characteristics for adhesion and durability remained unchanged'.

VVP 10 / VVP 50

⇒ Stockholm Konsult Sweden, Report no. 2297929 of 12.01.2000: VVP 10 and VVP 50 tested in connection with the product Dynasytan BHN – test of product for concrete surface treatment as specified in BRO 94, chapter 43.772. The requirements are detailed in Publ. 1994:2.

AR graffiti removers

⇒ IFZ Berlin  Germany, test report no. 07/93 ö of 07.12.1993 – determination of biodegradability. AR 700, AR 628 are 100 % biodegradable within 3 days, AR 210 is 93.4 % biodegradable within 15 days.