


BROEN LAB GROUP Products

- harsh environment in your laboratory?



Chrome plated surface
after years of use ▶

◀ BROEN POLYCOAT surface
after years of use

BROEN

for the Professional user

BROEN LAB GROUP Products

- why?

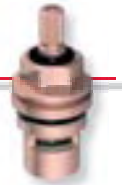
Design & Construction

Beautiful design and meticulous construction are hallmarks of BROEN LAB GROUP Products, which in every respect fulfil the requirements of modern laboratories. Good performance, long life, easy operation, easy cleaning and a high degree of flexibility.

BROEN LAB GROUP Products represent a thoroughly tested quality used in all types of laboratories around the world. Classic, yet state-of-the-art design, manufactured by BROEN LAB GROUP, which specializes in customized solutions.

BROEN offers a wide range of replacement parts and accessories to complement our complete product range. These parts are constructed with the same attention to quality as the original parts and offer long life and superior performance.

BROEN headworks are made partly of ceramics which ensure long lasting operation.



Surface Coating

BROEN LAB GROUP Products are surface treated with BROEN POLYCOAT powder coating which makes the surface highly resistant to most chemicals, UV fading and heat.

More than 30 years of experience in this type of surface

treatment have proved the suitability for laboratories.

Handles and text buttons can be delivered in accordance with EN 13792-2002 norm or US recommendations as well as all tailor made solutions on request.

Technical properties/ specifications for the surface treatment:

Layer thickness: Min. 50 µm

Light fastness, adhesion and flexibility: Excellent

Tested in accordance to:
EN ISO 9227 / ASTM B117:2007



BROEN offers different colours in chemical resistant BROEN POLYCOAT powder coating

"Forty-five years passed - and still in a perfect working condition!"



Bjarne Andersen
Head of Plumbing Department
DTU Copenhagen

"When our laboratory was first planned back in 1962, we had never expected the original taps to be still in perfect working condition some forty years later.

Since 1962 we have only been using taps from BROEN. We use the taps for many different environments, some of them very aggressive. Every day many dif-

ferent people use the outlets for professional and educational purposes and they are all pleased with them.

We have about 6,000 taps from BROEN mounted at our site in Lyngby, Copenhagen, and even though many of them are from the 60s and 70s, we can still get spare parts for them."

- **BROEN LAB GROUP** Products are mainly made from brass.
- 80% of the total amount of brass used worldwide in 2005 was recycled



Colour Scheme according to EN 13792:2002

Most frequently used colours

Media	Handle	Colour			Text
		Handle	Ring	Button	
Cold water		Green (No. 5168)	Green (No. 5168)	Light blue (No. 6188)	WPC
Hot water		Green (No. 5168)	Green (No. 5168)	Red (No. 0035)	WPH
Distilled water		Green (No. 5168)	White (No. 1000)	White (No. 1000)	WDI
Low pressure steam		Green (No. 5168)	Red (No. 0035)	Red (No. 0035)	WST
Vacuum		Light grey (No. 7001)	Light grey (No. 7001)	Black (No. 2000)	V
Compressed air		Light blue (No. 6188)	Light blue (No. 6188)	Yellow (No. 4059)	CA
Oxygen		Light blue (No. 6188)	Light blue (No. 6188)	Light blue (No. 6188)	O ₂
Propane / Butane LPG (Burning)		Yellow (No. 4059)	Red (No. 0035)	Yellow (No. 4059)	LPG
Butane		Yellow (No. 4059)	Light blue (No. 6188)	Light blue (No. 6188)	C ₄ H ₁₀
Propane		Yellow (No. 4059)	Light blue (No. 6188)	Red (No. 0035)	C ₃ H ₈
Acetylene		Yellow (No. 4059)	White (No. 1000)	Green (No. 5168)	C ₂ H ₂
Hydrogen		Red (No. 0035)	Red (No. 0035)	Red (No. 0035)	H ₂
Nitrogen		Light blue (No. 6188)	Green (No. 5168)	Green (No. 5168)	N ₂
Carbon dioxide		Light blue (No. 6188)	Light blue (No. 6188)	Black (No. 2000)	CO ₂
Argon		Light blue (No. 6188)	Light grey (No. 7001)	Light grey (No. 7001)	Ar
Helium		Light blue (No. 6188)	Light grey (No. 7001)	White (No. 1000)	He

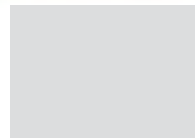
Logo, indication of opening/closing direction and media text are white, except on white & grey backgrounds, where texts are red.



1000



2700



2000



7001



2696



6188



6308



BROEN LAB GROUP Products

- surface coating

Time will show the difference..

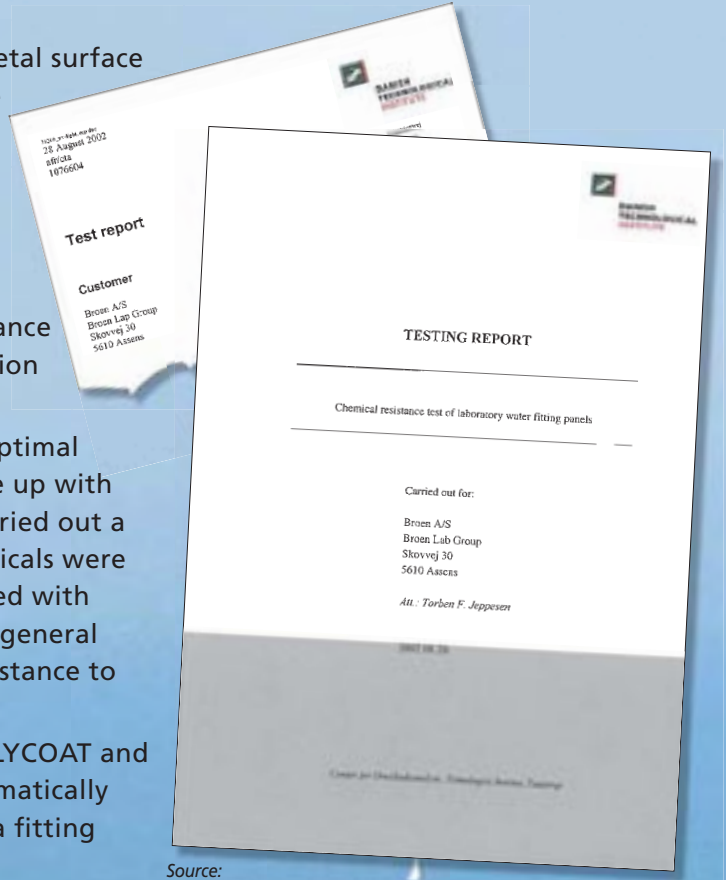
BROEN eliminated the usage of chrome as standard metal surface treatment for all laboratory products 45 years ago due to visible deterioration of the surface.

Epoxy coating was introduced as a replacement, but after 15 years of production Epoxy had shown visible changes in colours on the products.

The final and durable solution to the surface problem turned out to be a POLYCOAT coating with high resistance to aggressive chemicals and UV exposure – a combination you can find in any laboratory!

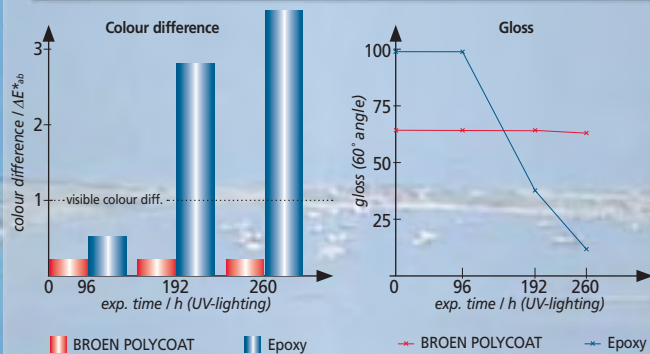
Many years of experience have shown that it was an optimal choice. Various independent and individual tests came up with the same result. The Danish Technological Institute carried out a series of different tests where a large number of chemicals were applied to the surface. BROEN POLYCOAT was compared with Epoxy coating and metal surfaces. The result is that in general BROEN POLYCOAT possesses the best properties of resistance to chemicals in a modern laboratory.

A test of UV exposure to surfaces based on BROEN POLYCOAT and Epoxy coating shows that BROEN POLYCOAT has a dramatically better resistance to UV-light. After many years of use a fitting with BROEN POLYCOAT still looks newly installed.



Source:
Danish Technological Institute
Results of mentioned tests are available upon request.

Surface deterioration test



25 year-old laboratory fittings



Chemical resistance of surfaces

Chemical (excerpt from test)	BROEN POLYCOAT	Epoxy
Sulphuric acid, 20%	0	0
Hydrochloric acid, 30%	0	3
Nitric acid, 30%	0	5
Phosphoric acid, 43%	0	0
Sodium hydroxide, 5%	4	4
Acetic acid, 10%	0	5
Citric acid, 10%	0	0
Ammonia, 10%	0	4
Petroleum	0	0
Isopropyl alcohol	0	0
Methyl ethyl ketone	3	3
Hydrogen peroxide, 3%	0	0
Phenol, saturated	3	3
Terpentine	0	0

- 0 = Excellent (No changes after 10 days of exposure)
- 1 = Good (Changes after 10 days of exposure)
- 2 = Less good (Changes after 5 days of exposure)
- 3 = Medium (Changes after 2 days of exposure)
- 4 = Poor (Some changes after 1 day of exposure)
- 5 = Very poor (Significant changes after 1 day of exposure)

6189

6190

4059

3111

3015

0035

3289



→ The BROEN POLYCOAT powder coating has a layer thickness of min. 50 µm



Color Scheme, US recommendations

Most frequently used colors

Media	Handle	Color	Text
Cold water (Suffix No. 007)		Green (No. 5168)	CW
Hot water (Suffix No. 005)		Red (No. 0035)	HW
High purity water (Suffix No. 008)		White (No. 1000)	DI
Low pressure steam (Suffix No. 100)		Black (No. 2000)	S
Vacuum (Suffix No. 010)		Yellow (No. 4059)	Vac
Compressed air (Suffix No. 009)		Orange (No. 3111)	Air
Oxygen (Suffix No. 025)		Light green (No. 5278)	O ₂
Acetylene (Suffix No. 131)		Violet (No. 6189)	C ₂ H ₂
Hydrogen (Suffix No. 006)		Light blue (No. 6188)	H ₂
Nitrogen (Suffix No. 020)		Brown (No. 0031)	N ₂
Carbon dioxide (Suffix No. 030)		Pink (No. 3015)	CO ₂
Argon (Suffix No. 031)		Violet (No. 6189)	Ar
Helium (Suffix No. 200)		Black (No. 2000)	He
Nitrous oxide (Suffix No. 121)		Light grey (No. 7001)	N ₂ O
Burning gas (Suffix No. 011)		Blue (No. 6190)	Gas

Logo, indication of opening/closing direction are as standard delivered with red text on a white background.

→ Complete range of BROEN POLYCOAT colour samples are available upon request

0031

5278

5168

2697

9006

9023

Metallic





BROEN LAB GROUP manufacture and market a wide range of quality products for high performance flow regulation. The products primarily apply to the professional user in all types of laboratories, the educational sector, the health sector, the pharmaceutical industry and industry in general.



BROEN LAB DIVISION
ISO 9001 certification
In September 1991 BROEN LAB DIVISION was certified according to ISO 9001 as one of the first Danish companies. The certification was carried out by Bureau Veritas, Denmark.

The quality management system of BROEN LAB DIVISION now complies with detailed specifications laid down by the internationally acknowledged EN ISO 9001:2000. This certification will further contribute to BROEN LAB GROUP's reputation for quality and reliability.

**LABORATORY
ENTERPRISES**

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