

Permabond®

F201HV - Hydrogen Gas Approved

ISO 9001 Certified
"Our Science ... Your Success"

Permabond® F201HV anaerobic sealant is a high-strength, high-performance engineering adhesive designed for sealing metal pipe joints. This special product contains a high-tech rubber core-shell matrix, which absorbs vibration and impact stress without the adhesive cracking. It is ideal for mismatched metal joints where differential expansion and contraction could be an issue or where there could be thermal shock.



This toughened product is ideal for use in the plumbing, valve and gas distribution industry. It is approved for contact with gas and hot water, as well as recently receiving certification for use in hydrogen gas systems. The KIWA approval allows appliance manufacturers to use this anaerobic sealant safely, in the knowledge that it is suitable for use with hydrogen pipework and is fully resistant to the tiny molecular structure of H₂, which is an extremely "searching" gas.

Hydrogen gas is an extremely explosive, high energy, searching gas. It is vital that pipework connections are sealed with approved materials such as F201HV

Permabond® F201HV

Features, Benefits & Typical Applications

- KIWA approved for contact with gas & hot water, as well as special hydrogen certificate - Inorm KE214
- WRAS approved for water
- High strength: ideal for domestic gas meters, prevents tampering
- Ideal for hydrogen gas valves, joints and fittings as high strength joints can't be accidentally loosened or undone
- No soldering, brazing or welding required = safer use
- Rapid, full cure at room temperature
- Single part, no need to weigh or mix material
- Thixotropic – allows easy dispensing but doesn't drip off components
- Excellent chemical resistance
- Can be used for regulator & valve sealing
- Industrial burners
- Boiler applications

Ideal for bonding:

Alloy

Aluminium

Anodised surfaces

Brass

Chrome

Copper

Mild steel

Stainless steel

Tin

Zinc

+ many more materials



Permabond®
Engineering Adhesives

Permabond F201HV Product Data

The following technical data for Permabond F201HV is a guideline and does not constitute a specification. For full technical information, please refer to the technical data sheet, available at www.permabond.com. Our experienced worldwide trained distributor network means no matter where in the world you are located, Permabond representatives can be called upon to assist you with your bespoke applications.

	F201HV
Description	Anaerobic adhesive with excellent resistance to peel and impact forces. Single component, room temperature curing.
Appearance	Brown
Features etc	- Capable of resisting thermal stresses from bonding dissimilar surfaces - Curing times can be reduced by either increasing temperature or using Permabond A905 / ASC10 Activators - Ideal for threaded or concentric metallic joints - Good adhesion to aluminium and copper alloys - Improved fatigue life - WRAS listed for wholesome (potable) water
Viscosity @ 25°C	2 rpm: 35,000 mPa.s / 20 rpm: 5,000 mPa.s
Max gap fill	0.3 mm
Max thread size	M50
Thermal conductivity	0.19 W/(m.K)
Coefficient of thermal expansion	90 x 10 ⁻⁶ mm/ mm/°C
Handling strength @ 23°C (M10 Steel)	15 minutes
Working strength @ 23°C (M10 Steel)	1 hour
Full strength @ 23°C (M10 Steel)	24 hours
Torque strength (M10 Steel)	Break: 28 Nm / Prevail: 30 Nm
Shear strength (steel collar & pin)	30 MPa

Chemical Resistance

Steel M8 nuts & bolts
7 days immersion

Medium	% Torque Strength Retention
Boiling Water	100
Boiling Toluene	70
Boiling Antifreeze	105

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Authorised distributor stamp:



*Handling time at 23°C / 73°F. Copper and its alloys will make the adhesive cure more quickly, while oxidised or passivated surfaces (like stainless steel) will reduce cure speed. To reduce cure time, use Permabond activator A905 or ASC10. Alternatively, increasing the cure temperature will reduce curing time.



www.permabond.co.uk
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- US Helpline - 800-640-7599
- UK - 0800 975 9800
- Asia +86 21 5773 4913

- General Enquiries +44(0)1962 711661
- Deutschland 0800 101 3177
- France 0805 111 388



info.europe@permabond.com
info.americas@permabond.com
info.asia@permabond.com



Wessex Business Park
Wessex Way
Colden Common
Winchester
Hampshire
SO21 1WP
United Kingdom

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