

Tech Note 3: AusPress Press-Fit Media Suitability Guide

TN.03

Not sure? Ask technical@auspress.com.au			316 SS	CuNi 90/10	Copper	EPDM	hNBR	FKM	PTFE
Media	Notes	Diameter	Max Work Pressure	Max Work Pressure	Max Work Pressure	-20 to +100C	-20 to +70C	-20 to +180C	-20 to +180C
Acetylene <small>TN.19, 5, 9</small>	AS 4289 (15 - 35mm)	< 22	1.5	N/S	N/S	A	A	A	A
		28	1.3						
		35	1.0						
Ad Blue / Urea		15 - 54	25		N/S	A	B	B	A
		76 - 168	16						
Ammonia ^{TN}	(dry) Max purity: N3.8	15 - 108	16	16	N/S	A	B	N/S	A
Argon ⁵	Max purity: N4.0	15 - 108	16	16	16	A	A	A	A
Avgas		15 - 54	25	N/S	N/S	N/S	N/S	A	A
		76 - 168	16						
Bio-Diesel (dry) (B100) ^{TN.02}	No water or wetting agents.	15 - 54	25		N/S	N/S	N/S	A	A
		76 - 168	16						
Bio-Ethanol	E85 (85% Ethanol)	15 - 54	25		N/S	N/S	A	A	
		76 - 168	16						
Bio-Gas	Methane, CO ² , nitrogen & hydrogen sulphide.	15 - 168	16			N/S	A		
Butane ⁵		15 - 108	5	5	5	N/S	A	A	A
Carbon Dioxide ⁵	(dry) Max purity: N2.5	15 - 108	16	16	16	B	A	A	
Carbon monoxide ⁵	(dry) Max purity: N3.7	15 - 108	16		16	N/S	A	A	A
Compressed Air ^{TN.35, 5}	Dry: < 1.0mg/m ³	15 - 54	25	10	16	If dry system	If wet system	If wet system	If wet system
	Wet: (Oil) lubricated air	76 - 108	16						
Coolant ¹	Propylene glycol <110°C	15 - 108	16	Ask Us		A	A	B	A
	Propylene glycol <160°C					N/S	N/S	B	B
Demineral & RO Water ^{TN.31}	Conductivity > 0.1µS/cm (EC), pH 4 - 14	15 - 108	25	N/S	N/S (too pure)	A			
		168	16						
Diesel ^{TN.02}	Flashpoint 50-80°C	15 - 54	25	Ask Us	N/S (ages fuel)	N/S	A	A	
		76 - 168	16						
Ethane ⁵		15 - 168	5		5	N/S	A	A	A
Ethanol ^{TN}	Temp < +25°C	15 - 54	25		16	A	N/S	N/S	A
		76 - 168	16						
Fire Services ^{TN.24}	Sprinkler & hydrant.	15 - 168	25 (refer ActivFire)	13 (refer marine)	16 (refer AS 2419.1)	A			
Glycol (< 90% by vol)	EPDM for Ethylene & Propylene bases.	15 - 108	25		16	A	A	A	A
		168	16						
Helium ⁵	Max purity: N4.0	15 - 108	16	16	16	A	A	A	A
Hydrogen ^{TN, 5}	Max purity: N4.0 (may leak <0.001cm ³ /min)	15 - 108	16	16	5	A	A	A	A
Kerosene ^{TN}		15 - 54	25		16	N/S	A	A	A
		76 - 168	16						
LPG (Propane) ^{2, 5}	AS 3688 approved ⁶ Fitting marked "GAS"	15 - 168	2 (5)	Ask Us	2	N/S	A	N/S ³	N/S ³
Lubricants ¹					10	N/S		A	
Methane ⁵		15 - 108	5		5	N/S	A	A	A
Methanol		15 - 168	16		N/S	A	B	N/S	A
Motor (Mineral) Oil, SAE ^{1 TN}	Not including E10 (fuel with ethanol additives)	15 - 54	25	Ask Us	10	N/S	A	A	A
		76 - 168	16						

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Natural Gas ^{2, 5}	AS 3688 approved ⁶ Fitting marked "GAS"	22 - 168	2 (5)	Ask Us	2	N/S	A	N/S ³	N/S ³
Nitrogen (gas) ⁵	Max purity: N4.8	15 - 108	16		16	A	A	A	A
Osmosis Water	High speed OK; TOC < 500ppb; < 10 CFU/mL	15 - 108	25		N/S	A			
		168	16						
Oxygen (Gas) < 25°C ^{TN.19, 5, 9}	Not medical, max purity: N2.8. Installer to clean to ensure oil & grease free.	< 35	10	10	10	N/S ⁴	N/S	A	A
Ozone (gas) ⁵	Dry, not dissolved (wet).	15 - 108	16			A	N/S	A ⁷	A
Propane ^{2, 5}	See LPG.	15 - 108	2 (5)	2 (5)	2	N/S	A	N/S ³	N/S ³
Petrol ^{TN.02} ROZ 95 & 98	Class A-III suitable	15 - 54	25	Ask Us	16	N/S	A	A	A
		76 - 108	16						
Potable Water	WaterMark (EPDM required for AS 3688)	15 - 108	25	Not for Drinking	16	A		A	
		168	16						
Refrigerants ^{1, 5}	Non-flammable; R134a, R404, R407, R410A	15 - 168	16		N/S	A ¹	A ¹	N/S	
Salt Water		15 - 108	N/S	16 ⁸	N/S	-	A	A	
Sewer (Gravity)	Press-fit is not suitable!	-	N/S	N/S	N/S	-	-	-	-
Spring Water		15 - 108	25	Ask Us	Ask Us	A			
		168	16						
Stormwater & Siphonic ^{TN.17}	Press-fit is not suitable for gravity applications!	-	N/S	N/S	N/S	-	-	-	-
Synthetic Air ⁵	Max purity: N4.8	15- 108	16			A	A	A	A
Steam (Wet) ^{TN}	Loose nut fittings not suitable, Refer Tech Note!	15 - 108	5.5 (160°C)	Ask Us	< 1.0 (100°C)	N/S	N/S	N/S	N/S
Vacuum (not Siphonic)	From an atmosphere of 1,013mbar, 813mbar achievable (ie -200mbar).	15 - 108	0.2 absolute	200mbar absolute	200mbar absolute	A	A	A	A
Vegetable Oils	Avocado, canola (rapeseed), coconut, corn, cottonseed, linseed, peanut, rice bran, safflower, sesame, soybean & sunflower.	15 - 168	16			N/S	A	A	
	Olive & palm.	15 - 168	16			A	A		

Notes & Abbreviations: No data does not suggest suitability. Please contact AusPress for confirmation. Max Working Pressure shown in 'bar' units unless otherwise noted. **A**= Suitable, **B**= Fair, **N/S**= Not Suitable, **Ask Us**= Contact us for assessment; **TN**= Contact AusPress and refer to our Tech Note documents for more information. **Note 1:** Contact us with the brand and product name for confirmation first. **Note 2:** Pressure subject to regulations (eg LPG up to 200kPa for AS 5601). Min tube wall thickness 1.2mm conflict AS 5601 & AS 5200. **Note 3:** AS 5601 requires yellow hNBR seals despite these materials being chemically suitable. **Note 4:** EPDM is suitable up to 15°C but not recommended for safety. **Note 5:** Gases are not to be for human consumption, ie non-medical applications only. **Note 6:** See AS 5601.1, Table 4.1 (316: 70°C & 2 bar max). **Note 7:** FKM may absorb O₃ not effecting the rubber but may affect data readings. **Note 8:** Maximum may be less depending on the required shipping approval authority for ship installations (eg excluding land based installs). **Note 9:** Refer AS 4289 Oxygen and Acetylene Gas Reticulation Systems.

About Pressures: Working Pressure= 'normal' or 'design' operating pressure. The working pressure of a 'system' is dependent on the press tool used. Test Pressure= 'working pressure' x1.5 (wet) or x1.1-1.3x (gasses), during site test conditions only. Safety Pressure= Maximum pressure not to be exceeded in all circumstances. Burst Pressure= The pressure recorded in a laboratory test environment during destructive testing – for information only. For example: 25 bar maximum working pressure is ok for potable water when using M-Profile stainless 108mm fitting, a HP108 collar, and the ACO403 press tool to install. The 1.5x testing pressure is 37.5 bar in this instance as a wet media. Refer AusPress Test Protocol Form for more information.

Degree Purity of Gas: The first digit of the grade classification indicates the 'number of nines' purity, e.g. N3.0 = 99.9% purity. The second digit is the number following the last nine, e.g. N4.6 helium has a guaranteed minimum purity level of 99.996%.

Elastomer Types: EPDM - ethylene propylene diene monomer. hNBR - hydrogenated nitrile butadiene rubber. FKM - fluoro-elastomer (green). PTFE - Polytetrafluoroethylene (Teflon) coated with FKM core.