

CPI 184 Material Ring Success in Low Temperature BOG Compressors

The Challenge

BOG (Boil-Off Gas) Natural Gas is a very demanding application on the sealing components of a reciprocating compressor due to the extremely low 1st stage suction temperatures, together with the very dry (low-dewpoint, bone-dry) gas condition.

Due to these demanding conditions standard filled PTFE grades of material were known to give very short lifetimes (e.g. 3 months)



Solution

For this application CPI, part of the Howden group, have installed one of our well-known dry gas material grades CPI 184, which has proved to be very successful and over many years of providing solutions to BOG compressor operators has taken lifetimes to anything from 1 to 3 years depending on the planned maintenance regime on site.

CPI 184 Material

CPI 184 is a proprietary polymer alloy developed exclusively by CPI, which has become the preferred material for use on non-lubricated gas compressors and in particular those gases which are 'bone-dry' (very low dewpoint), where users have been able to obtain lives of between 3 and 40 times those achieved with conventional (filled-PTFE) materials.

Successful CPI 184 BOG Installations

# OF STAGES	FINAL DISCHARGE PRESSURE	SUCTION TEMPERATURE	MAKE
2	8.2 Bar (119 psi)	-140°C (-220°F)	Kobelco
2	12.12 Bar (176 psi)	-140°C (-220°F)	Kobelco
2	12.95 Bar (188 psi)	-140°C (-220°F)	Linde
3	37 Bar (537 psi)	-113°C (-171°F)	Dresser-Rand
3	56 Bar (812 psi)	-12.2°C (10.4°F)	Ingersoll-Rand
4	56.85 Bar (825 psi)	-144°C (-227.2°F)	Kobelco
4	64.21 Bar (931 psi)	-140°C (-220°F)	Kobelco
4	75.76 Bar (1099 psi)	-140°C (-220°F)	Kobelco
5	103 Bar (1494 psi)	-140°C (-220°F)	Kobelco