BRAD PENN® BIOGAS ENGINE OILS

BRAD PENN® Biogas Engine Oils are premium quality stationary gas engine oils with enhanced alkalinity reserve designed for use in applications where fuel gas is generated from anaerobic digestion of manure, compost and/or landfill residue.

BRAD PENN® Biogas Engine Oil (P/N 7286) is a high ash content (sulfated ash = 1.82% mass), high TBN (15) oil designed for use in stationary gas engines where influent biogas contains high levels of contaminants and corrosive agents such as hydrogen sulfide, organic halides, etc.

BRAD PENN® Medium Ash Biogas Engine Oil (P/N 7290) provides a mid-range TBN (8.9), medium ash content (sulfated ash = 0.99% mass) product for use in stationary gas engines where the influent biogas contains moderate levels of contaminants and corrosive agents or in applications where engine design and operation does not permit the use of a high ash content oil.

Since the quantity and quality of the gas produced in these systems can vary significantly, carefully selected and regularly scheduled oil testing is necessary to establish acceptable oil drain intervals and to monitor the adverse effects of fuel contaminants. Utilization of an oil monitoring program like the Brad Penn Oil Analysis Program is strongly recommended. Please contact your Brad Penn® Regional Sales Manager or American Refining Group, Inc. Technical Services for further information.

BRAD PENN®
Biogas Engine Oils - Typical Properties

		High Ash	Medium Ash
SAE Grade	**Test Method**	**40**	**40**
API Gravity, 60°F	ASTM D4052	27.0	26.9
Density, lbs/gal (g/L)	Calculated	7.44 (892)	7.44 (892)
Viscosity, cSt @ 40°C	ASTM D445	134.0	127.6
Viscosity, cSt @ 100°C	ASTM D445	14.0	13.6
Viscosity Index	ASTM D2270	104	102
Pour Point, °C (°F)	ASTM D5949	-30 (-22)	-30 (-22)
Flash Point, °F (°C)	ASTM D92	450 (232)	435 (224)
Color	ASTM D1500	Opaque	Opaque
TBN	ASTM D2896	15	8.9
Sulfated Ash, mass %	ASTM D874	1.82*	0.99*
Product Code		**7286**	**7290**

*Exceeds Caterpillar SGEO recommended maximum 0.6% wt sulfated ash content

AMERICAN REFINING GROUP, INC.