

# Armstrong Spec Sheet

## ASTM Oil No. 3 5 hours at 300°F (150°C)

## ASTM Fuel B 5 hours at 73°F (23°C)

## Composition

Products	Characteristics and Uses	Density lbs/cu. ft. (g/cm <sup>3</sup> )	Compressibility % at 5000 psi (34.5 MPa)	Minimum Recovery %	Minimum Tensile Strength psi (MPa)	Tensile Loss %	Thickness Increase %	Compressibility %	Weight Increase %	Thickness Increase %	Fiber	Rubber Binder
<b>Tuigrath - for use above 750°F (400°C)</b>												
KN-9007 F 721100520M4	High performance, graphite-based material with improved handleability, excellent crush resistance, and superior tensile strength. Recommended for use in a variety of high temperature applications including those above 750°F (400°C).	75 (1.20)	20	50	1200 (8.3)	10	10	25	20	10	Graphite	Nitrile Butadiene
<b>Thermo-Tork - for use up to 750°F (400°C) (See individual product descriptions.)</b>												
TN-9000 F 721100520M6	Fully Cured <sup>®</sup> binder, highly compressed material with good tensile strength, low creep relaxation, excellent fuel and oil resistance. For service up to 750°F (400°C) and high flange pressure applications.	90 (1.44)	7-17	50	2500 (17.2)	35	10	30	20	15	Aramid <sup>®</sup>	Fully Cured Nitrile Butadiene
TN-9001 F 72900059M6	A heavy-duty, Latent Cure <sup>®</sup> material with nitrile binder for heavy-duty applications at elevated temperatures up to 750°F (400°C). Excellent oil resistance.	80 (1.28)	15-30	40	2000 (13.8)	40	20	35	30	30	Aramid	Latent Cure System Nitrile Butadiene
TN-9004 F 721100520M6	Cost-effective heavy-duty compressed material with Fully Cured nitrile binder. Excellent fuel and oil resistance. Good tensile strength. For service up to 650°F (350°C) and high flange pressure applications.	95 (1.50)	5-20	45	2500 (17.2)	45	15	25	20	15	Aramid	Fully Cured Nitrile Butadiene
TN-9005 F 72900059M5	Cost-effective heavy-duty material for service up to 650°F (350°C). Latent Cure system with nitrile binder. Good conformity for irregular flange surfaces.	80 (1.28)	15-30	25	1500 (10.3)	50	20	50	40	20	Aramid	Latent Cure System Nitrile Butadiene
TS-9006 F 72900059M5	Cost-effective heavy-duty compressed material with Fully Cured styrene binder. Recommended for use in oil, water, or steam. Good tensile strength. For service up to 650°F (350°C) and high flange pressure applications.	95 (1.50)	5-20	40	1500 (10.3)	-	20-60	-	-	15-40	Aramid	Fully Cured Styrene Butadiene
TS-9003 F 72900059M4	Controlled-Swell <sup>®</sup> alternative to high-swell compressed asbestos materials. Latent cure styrene binder on heat-resisting thermally stable fibers offers good sealing characteristics at low flange pressures. Conforms well to irregular flange surfaces. For service up to 650°F (350°C).	90 (1.44)	15-30	20	1000 (6.9)	-	45-65	-	-	20-50	Aramid	Latent Cure System Styrene Butadiene "Controlled Swell"
TN-9045* F 72430053M5	An economical, heavy-duty material for service in elevated temperature applications above 350°F (180°C). Unique Latent Cure binder system adds additional temperature resistance over conventional binders.	80 (1.28)	20	55	2000 (13.8)	45	15	25	20	6	Acrylic/Blend	Latent Cure System Acrylic
TN-9014 F 72900059M8	Economical compressed material with a Fully Cured nitrile binder. Excellent fuel and oil resistance with a blend of cellulose and aramid fibers. For service in applications where the temperature does not exceed 550°F (290°C).	90 (1.44)	7-20	45	2500 (17.2)	45	20	30	25	20	Aramid/Cellulose	Fully Cured Nitrile Butadiene
TN-9015 F 72900059M5	Economical material with a Latent Cure nitrile binder. Conforms well to flange surface imperfections. Blend of cellulose and aramid fibers. Excellent fuel and oil resistance. For service in applications where the temperature does not exceed 550°F (290°C).	80 (1.28)	12-27	30	1500 (10.3)	50	25	-	35	25	Aramid/Cellulose	Latent Cure System Nitrile Butadiene
TS-9016 F 72900059M5	Economical compressed material with a Fully Cured styrene binder. Recommended for oil and water applications. Contains a blend of cellulose and aramid fibers. For use in applications where the temperature does not exceed 550°F (290°C).	90 (1.44)	7-20	40	1800 (12.4)	-	25-65	-	-	10-40	Aramid/Cellulose	Fully Cured Styrene Butadiene
TS-9013 F 72900059M4	Economical Controlled Swell material. Conforms well to flange surface imperfections. This material contains a latent cure styrene binder with a blend of cellulose and aramid fibers. Recommended for water and oil applications. For service in applications where the temperature does not exceed 550°F (290°C).	85 (1.36)	12-25	25	1200 (8.3)	-	30-70	-	-	20-50	Aramid/Cellulose	Latent Cure System Styrene Butadiene "Controlled Swell"
<b>Synthesal - for use up to 350°F (180°C)</b>												
N-8092 F 72900059M5	Excellent crush resistance at high flange pressures. Fully Cured nitrile binder. Recommended for sealing oil, fuels, and water below 350°F (180°C).	75 (1.20)	15-30	35	1600 (11.0)	30	20	40	40	20	Reinforced Cellulose	Fully Cured Nitrile Butadiene
N-8094 F 729100520M9	An economical material exhibiting very good crush resistance at high flange pressures. Recommended for sealing oils, fuels, and water below 350°F (180°C). Fully Cured nitrile binder.	54 (87)	28-42	20	1250 (8.6)	30	7	45	50	7	Reinforced Cellulose	Fully Cured Nitrile Butadiene
N-8090 F 72900059M6	A reinforced fiber and Latent Cure nitrile binder composition with outstanding sealing characteristics. Excellent oil resistance. For applications below 350°F (180°C).	80 (1.28)	15-25	35	2000 (13.8)	45	30	50	30	20	Reinforced Cellulose	Latent Cure System Nitrile Butadiene
S-8091 F 72400059M9	Seals oils, fuels, and low-pressure steam where temperatures are below 350°F (180°C). Controlled Swell with latent cure styrene binder.	75 (1.20)	15-25	25	1800 (12.4)	-	30-75	-	-	25-50	Reinforced Cellulose	Latent Cure System Styrene Butadiene "Controlled Swell"

\* Typical values - Average values determined in accordance with ASTM F 104 testing methods for Type I materials. Should not be used as a basis for material specifications. Material thickness of .031" (8mm) used for all testing. All specifications developed on 3 sigma limits of physical property data.

(1) Fully Cured materials have rubber binders which are vulcanized during formation or in subsequent processes for added initial strength and fluid resistance.

(2) Latent Cure materials are specially formulated for initial conformability which helps seal rough flanges. The presence of heat in the application activates ingredients which vulcanize the material to provide the benefits of Fully Cured products.

(3) Controlled Swell materials are Latent Cure products which use Styrene Butadiene Rubber (SBR) binders. Significant thickness increase occurs at the exposed internal edge of the exposed internal edge of the gasket with many fluids, dramatically improving sealability. The heat of application then vulcanizes the material to limit further swelling and provide Fully Cured performance.