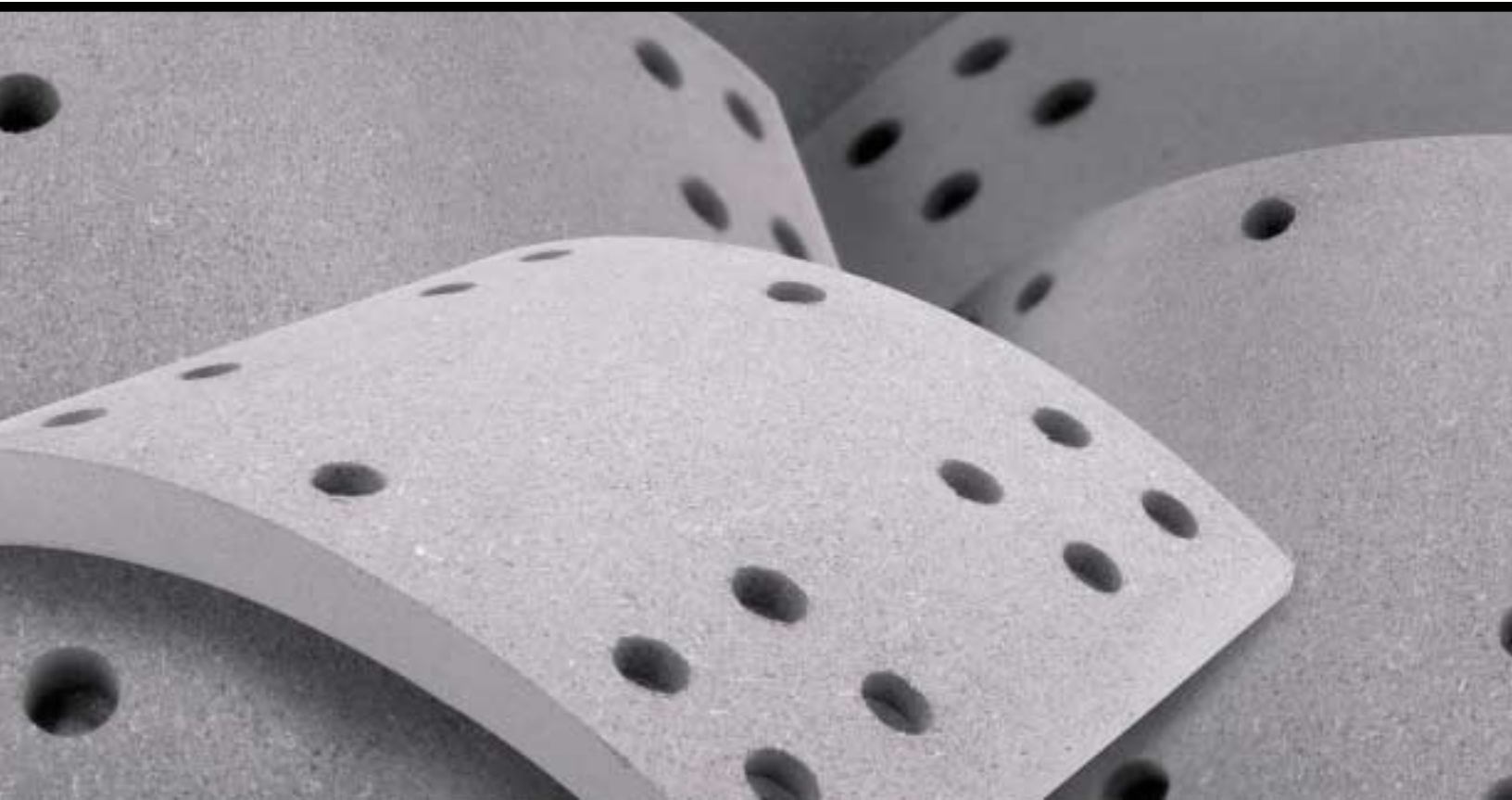




**Bendix®**  
Brake Linings

**OEM Certified**

**Stopping Power**



**Bendix Spicer  
Foundation Brake LLC**

A Bendix Commercial Vehicle Systems  
and Dana Corporation Joint Venture

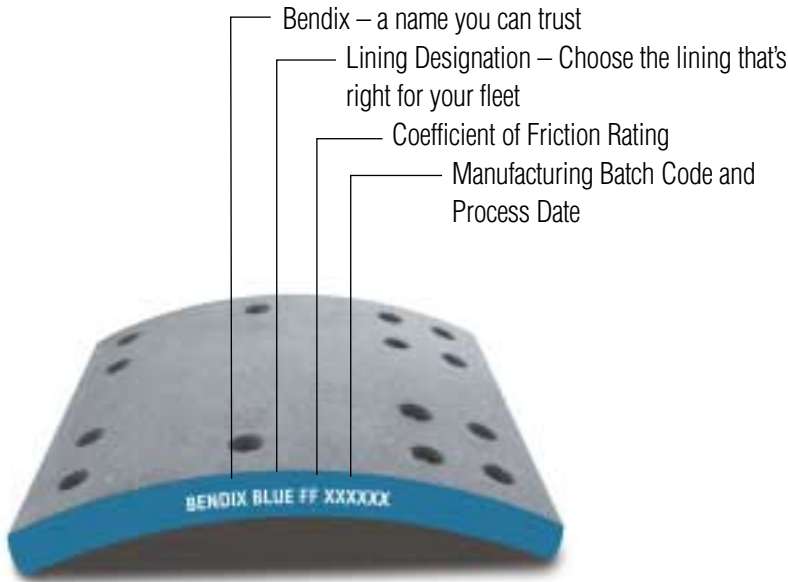
a product of

# Bendix®

## Lining Identification

### Bendix Standard Platform

(Bendix Colored Lining)



### Bendix “ES” Extended Service Platform



### OEM Certified Stopping Power

Whether you're performing light on-highway hauling, severe duty stop and go, or tough off-highway service, Bendix® brake linings are specifically tailored to meet your requirements. Bendix offers a wide selection of linings including Extended and Standard platforms, Fiberglass to metallic fibers and GAWR's of 13,200 to 29,000 lbs. Be assured that Bendix brake linings are engineered to provide safe, consistent, and reliable performance and are precision made for specific applications.

Manufactured and assembled in the United States and Canada, all Bendix linings are made exclusively with premium compounds. When it comes to durability, reliability, and long-term wear, select Bendix, the brake lining with OEM certified stopping power.


# Bendix Friction Application Chart

GAWR	Standard Platform	Extended Service Platform	General Application
17,000	Green	–	Light duty friction for mid-range trucks and container chassis
20,000	–	ES310	High temperature friction formulated specifically for use with the 15" reduced envelope brake package
	Silver Supreme	–	Medium long life friction for line haul and city pick-up and delivery applications
	Silver	ES410	Medium grade friction for line haul and city pick-up and delivery applications
	Blue	ES420	Premium grade friction giving long lining life and long drum life for line haul, city pick-up and delivery and school bus applications
	–	ES450	Cohesive friction for long haul applications
23,000	Red	ES600	Premium long life friction for typical over the road applications
	Yellow	ES690	Premium grade friction for line haul and vocational applications
	Gold	ES440	Quiet, long life friction for high duty cycle applications such as school bus and beverage trucks
	Orange	ES1160	Severe service combination friction
	Bronze	ES1100	Severe service full metallic friction
25,000	–	ES1050	Severe service friction for vocational applications

<b>Standard Platform Friction</b>	Developed for use with industry standard platform single and double anchor pin applications
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<b>Extended Service Platform Friction</b>	Developed specifically for use with Bendix single anchor pin extended service brake packages. This increased density friction is 22% thicker than the industry standard platform lining. The combination of increased density and increased thickness allows for a 30% to 35% wearable life expectancy increase when compared to the standard platform lining
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# For Your Next Brake J

COMP						
	17,000	20,000				
	Standard Platform	Reduced Envelope Platform	Standard Platform	Extended Service Platform	Cohesive Lining	Standard Platform
	Green	ES310	Silver/Silver Supreme	ES410	ES450	Red
			Blue	ES420		Yellow
<b>ABEX®</b>	XL SPECIAL 6014 FF XC 6085 FF	EN PREMIUM 6008-1 FF (3030-197) EL SUPREME II 6011 FF (3030-67)				EX SUPREME 6011 FF MX 697 EE
<b>BENDIX®</b>		BXV, BXS, BXP				
<b>BRAKEPRO™</b>	CM14 CM15	CM16			CM24	CM18 CM20
<b>CARLISLE®</b>	MM NA100 EF	MM MB21FF MB20 FF			CF2000	MM HD1L FF MM MB23 FF
<b>EUCLID™</b>		E77 FF E78 FF				E88 FF
<b>FRAS-LE®</b>	AF/540/FF	AF/550/FF AF/555/FF AF/556/FF				AF/557/FF
<b>HALDEX®/MIDLAND™/ GREYROCK®</b>	GN2017	GS 2015 FF GD 2016 FF G52015 GF3008			GR3010	GG3020 GD2016
<b>MARATHON®</b>	MH FF UB FF	DL FF DB20 FF				FLOE FF HS FF
<b>MERITOR®</b>	EG	MA210 MA212 MG1 MG2L				MA310 MG2
<b>TMD®</b>	6001 FF 5001 FF	4001M EF				3002T FF

\* Note: Information compiled from various industry sources. The GAWR for each friction material may vary depending on the AL factor. Bendix does not make any inference to FMSI testing results for the above non-Bendix linings. Maximum GAWR based on 16 1/2' x 7" Drive and Trailer applications.

# Job ... Specify Bendix®

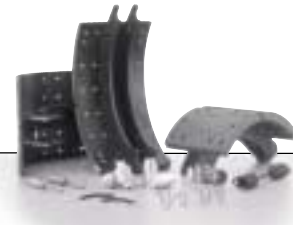
## COMPETITIVE CROSS REFERENCE

Maximum GAWR\*

23,000							25,000
Extended Service Platform	Severe Service		Combination Block		Metallic		Extended Service Platform
	Standard Platform	Extended Service Platform	Standard Platform	Extended Service Platform	Standard Platform	Extended Service Platform	
ES600 ES690	Gold	ES440	Orange	ES1160	Bronze	ES1100	ES1050
35 FF (931-162)	EH SUPREME 6040 GG (1083-9)		MC 685/695FF EC 685/6069GG				EW SUPREME 6028 GG (1083-7) EH6040
	BXHD						
	CM22A-1		CMB42		CMM46		CM29
	MM HD5 GG WT56		MM HB 62 GG MB44 E44		MM HB 60 GG		
			E98 FF E98				
	AF/587/GG		AF/560/FF AF/555/FF		AF/560/FF		AF/587/GG
			GC 2040 FF / 2020 FF		GM 2040 FF		
	TS GG GW2025		MBC FF		MBS FF GZ2035 GM2040		GP2030
	R401		CG		MET		R403
	3001T FF		3001T FF/3002T FF				

For more information, visit [www.foundationbrakes.com](http://www.foundationbrakes.com)

For a supplier near you, call 1-866-610-9709



Bendix-leading the way in engineering and development of application specific products.

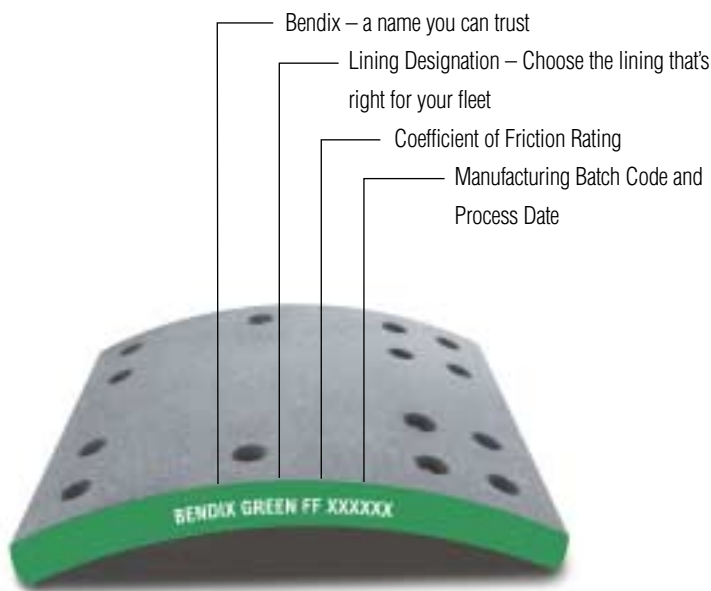
All Bendix® linings meet or exceed FMVSS121.

Our Green FF is engineered to provide an economical lining for single axles up to a maximum of 17,000 lbs., and tandem axles up to a maximum of 34,000 lbs. G.A.W.R., using standard 16.5" x 7" brakes with 165 or 180 AL factors as specified in the chart below.

Green handles loads with consistent brake performance when used with conventional brake shoe designs.

Best suited for tractor, trailer, and straight truck applications, Green is designed with a uniquely formulated medium low-friction organic compound for on highway applications and city pick-up & delivery.

## Green FF Lining



### Applications:

Line haul  
Straight trucks

### Notes:

Available on standard shoes  
Medium torque capacity

### Market Competition:

GreyRock NP  
Carlisle MB17, NA100  
Abex 6014  
BrakePro CM15, CM14  
Fras-le 540  
Marathon UB, MH

Size	FMSI	AL Factor	Rolling Radius	Max. G.A.W.R. Single/Tandem	Shoe Type	Bendix Friction
16.5" X 7"	4311J	165 / 180	21.1"	17k / 34k	SAP	GREEN FF
16.5" X 7"	4515G	165 / 180	21.1"	17k / 34k	DAP	GREEN FF



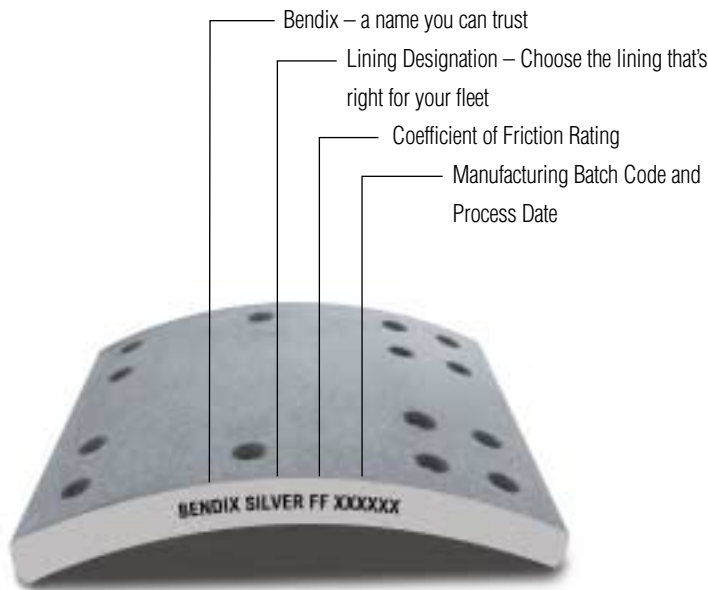
Bendix-leading the way in engineering and development of application specific products.

All Bendix® linings meet or exceed FMVSS121.

Our Silver FF is engineered to provide an economical lining for single axles up to a maximum of 20,000 lbs., and tandem axles up to a maximum of 40,000 lbs. G.A.W.R., using either standard 16.5" x 7" or 16.5" x 8.63" brakes with 165 or 180 AL factors as specified in the chart below.

Silver FF linings are extremely well suited for tractor, trailer, and straight truck applications. Uniquely formulated with a moderate to high friction organic compound, they are designed to handle on-highway applications and city pick-up and delivery as well.

## Silver FF Lining



### Applications:

Line haul  
Pick-Up and Delivery

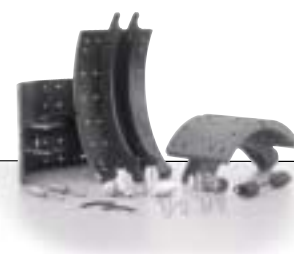
### Notes:

Available on standard brake shoes  
Large torque capacity  
Good stopping power

### Market Competition:

Meritor R201, R202  
GreyRock 2015  
Carlisle MB21, MB19  
Abex 6008-1, 6011  
BrakePro CM16  
Fras-le 550, 555  
Marathon DB20

Size	FMSI	AL Factor	Rolling Radius	Max. G.A.W.R. Single/Tandem	Shoe Type	Bendix Friction
12.25" X 7.5"	4692	165 / 180	16.1"	17k / 34k	DAP	SILVER FF
16.5" X 7"	4311	165 / 180	21.1"	20k / 40k	SAP	SILVER FF
16.5" X 7"	4515	165 / 180	21.1"	20k / 40k	DAP	SILVER FF
16.5" X 8.63"	4551	165 / 180	21.1"	20k / 40k	DAP	SILVER FF



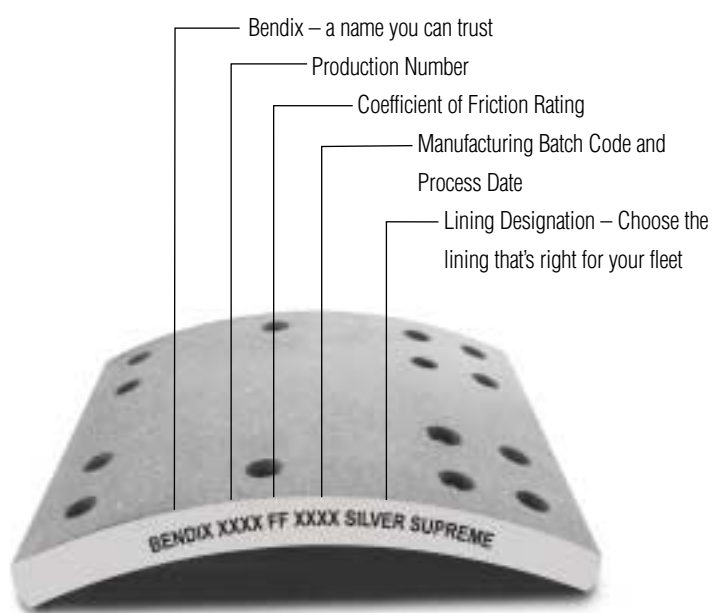
Bendix-leading the way in engineering and development of application specific products.

All Bendix® linings meet or exceed FMVSS121.

Our Silver Supreme is engineered to provide an economical lining for single axles up to a maximum of 20,000 lbs., and tandem axles up to a maximum of 40,000 lbs. G.A.W.R., using either 12.25" x 7.5" or standard 16.5" x 7" brakes with 144 or 165 AL factors as specified in the chart below. Bendix® Silver Supreme provides a 75% increase in lining life over the standard Bendix® Silver lining.

Silver Supreme is extremely well suited for tractor, trailer, and straight truck applications. Uniquely formulated with a moderate to high friction organic compound, Bendix Silver is designed to handle on-highway applications and city pick-up and delivery as well.

## Silver Supreme FF Lining



<b>Applications:</b>
Line haul Pick-Up and Delivery
<b>Notes:</b>
Available on standard brake shoes Large torque capacity Good stopping power Excellent Lining Life
<b>Market Competition:</b>
Meritor MA212 Grey/Rock 2015 Carlisle MB21, CF2000 BrakePro CM16 Fras-le 555 Marathon DB20 Abex 3030-197

Size	FMSI	AL Factor	Rolling Radius	Max. G.A.W.R. Single/Tandem	Shoe Type	Bendix Friction
12.25" X 7.5"	4692	144	15.6"	17.5k / 35k	DAP	Silver Supreme
16.5" X 7"	4515	165	20.7"	20k / 40k	DAP	Silver Supreme
16.5" X 7"	4707	165	20.7"	20k / 40k	DAP	Silver Supreme





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All Bendix® linings meet or exceed FMVSS121.

Our Blue FF is engineered to provide a premium, multi-application, all-makes lining for single axles up to a maximum of 20,000 lbs., and tandem axles up to a maximum of 40,000 lbs. G.A.W.R., using either standard 16.5" x 7" or 16.5" x 8.63" brakes with 165 or 180 AL factors as specified in the chart below.

Blue FF linings are designed with uniquely formulated high-friction Aramid polymer fibers, engineered to handle the high heat of long mountain grades and high duty cycles of city pick-up & delivery.

## Blue FF Lining



### Applications:

Conventional line haul

### Notes:

Aramid polymer fibers  
Available on standard shoes  
Good torque capacity  
Good stopping power  
Long drum life

### Market Competition:

Meritor R201  
GreyRock 2015  
Carlisle MB21  
Abex 6011, 6008-1  
BrakePro CM16  
Fras-le 555  
Marathon DB20

Size	FMSI	AL Factor	Rolling Radius	Max. G.A.W.R. Single/Tandem	Shoe Type	Bendix Friction
16.5" X 7"	4311	165 / 180	21.1"	20k / 40k	SAP	BLUE FF
16.5" X 7"	4515	165 / 180	21.1"	20k / 40k	DAP	BLUE FF
16.5" X 8.63"	4551	165 / 180	21.1"	20k / 40k	DAP	BLUE FF



Bendix-leading the way in engineering and development of application specific products.

All Bendix® linings meet or exceed FMVSS121.

Our Red FF is engineered to provide a premium, multi-application lining for single axles up to a maximum of 23,000 lbs., and tandem axles up to a maximum of 46,000 lbs. G.A.W.R., using either standard 16.5" x 7" or 16.5" x 8.63" brakes with 165 or 180 AL factors as specified in the chart below.

For steer axles, Red linings are engineered to provide a premium, multi-application lining up to a maximum of 16,000 lbs. G.A.W.R., using standard 16.5" x 6" brakes with 132 AL factor as specified in the chart below.

Capable of handling maximum loads with consistent brake performance and maximum drum life, when used with conventional brake shoe designs.

Designed with uniquely formulated high-friction Aramid polymer fibers, engineered to endure the intense heat of long mountain grades and high duty cycles of city pick up & delivery.

## Red FF Lining



### Applications:

Heavy line haul

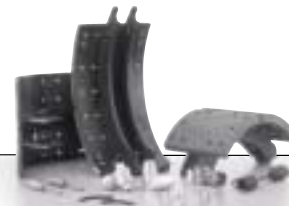
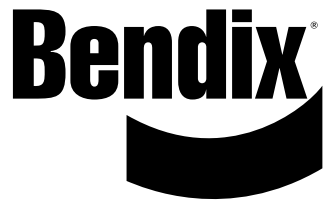
### Notes:

Aramid polymer fibers  
Available on standard brake shoes  
Good torque capacity  
Good stopping power  
Long drum life

### Market Competition:

Meritor R301  
GreyRock 2020  
BrakePro CM18  
Fras-le 557  
Marathon FLOE  
Carlisle MB23  
Abex 685, 697

Size	FMSI	AL Factor	Rolling Radius	Max. G.A.W.R. Single/Tandem	Shoe Type	Bendix Friction
12.25" X 5"	4661	165 / 180	16.1"	17k / 34k	DAP	RED FF
12.25" X 5.5"	4536	165 / 180	16.1"	17k / 34k	DAP	RED FF
12.25" X 7.5"	4591	165 / 180	16.1"	17k / 34k	DAP	RED FF
12.25" X 7.5"	4692	165 / 180	16.1"	17k / 34k	DAP	RED FF
15" X 4"	4693	132	21.1"	14.4k	SAP	RED FF
15" X 4"	1308	132	21.1"	14.4k	SAP	RED FF
16.5" X 5"	4524	132	21.1"	14.6k	DAP	RED FF
16.5" X 6"	4514	132	21.1"	16k	DAP	RED FF
16.5" X 7"	4311	165 / 180	21.1"	23k / 46k	SAP	RED FF
16.5" X 7"	4515	165 / 180	21.1"	23k / 46k	DAP	RED FF
16.5" X 8.63"	4551	165 / 180	21.1"	20k / 40k	DAP	RED FF



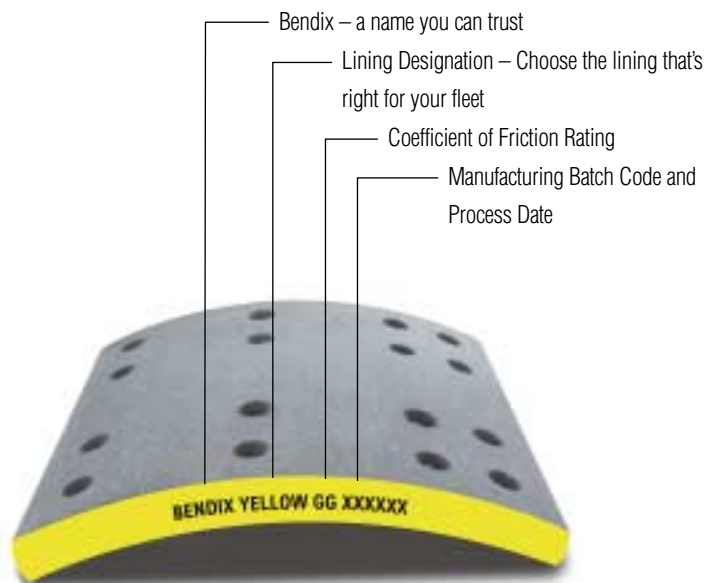
Bendix-leading the way in engineering and development of application specific products.

All Bendix® linings meet or exceed FMVSS121.

Our Yellow GG is engineered to provide an economical lining for single axles up to a maximum of 23,000 lbs., and tandem axles up to a maximum of 46,000 lbs. G.A.W.R., using either standard 16.5" x 7" or 16.5" x 8.63" brakes with 165 or 180 AL factors as specified in the chart below.

Yellow is a uniquely formulated high-friction organic compound that will handle heavy duty and on/off road applications where high brake torque is required.

## Yellow GG Lining



### Applications:

Heavy line haul  
Heavy vocational

### Notes:

Available on standard brake shoes  
Extremely high torque  
Great stopping power  
Good drum life

### Market Competition:

Market competition:  
Meritor R301, R302  
GreyRock 2020  
Carlisle MB23  
Abex 685, 697  
BrakePro CM20  
Fras-le 557  
Marathon FLOE

Size	FMSI	AL Factor	Rolling Radius	Max. G.A.W.R. Single/Tandem	Shoe Type	Bendix Friction
16.5" X 5"	4524	132	21.1"	14.6k	DAP	YELLOW GG
16.5" X 6"	4514	132	21.1"	16k	DAP	YELLOW GG
16.5" X 7"	4311	165 / 180	21.1"	23k / 46k	SAP	YELLOW GG
16.5" X 7"	4515	165 / 180	21.1"	23k / 46k	DAP	YELLOW GG
16.5" X 8.63"	4551	165 / 180	21.1"	23k / 46k	DAP	YELLOW GG



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All Bendix® linings meet or exceed FMVSS121.

Our Gold FF is specifically engineered to provide a maximum life, premium all-makes lining for single axles up to a maximum of 23,000 lbs., and tandem axles up to a maximum of 46,000 lbs. G.A.W.R., using standard 16.5" x 7" brakes with 165 or 180 AL factors as specified in the chart below.

For steer axles, Gold is engineered to provide a maximum life, premium all-makes lining for up to a maximum of 25,000 lbs. G.A.W.R., using standard 16.5" x 10" brakes with 180 AL factor as specified in the chart below.

Gold high-friction Aramid polymer fibers are designed to handle the high heat of bus service or the long grades of mountain terrain.

## Gold FF Lining



### Applications:

Heavy line haul  
Heavy vocational  
Bus

### Notes:

Aramid polymer fibers  
Available on standard shoes  
High torque capacity  
Superior friction and drum life  
Superior stopping power

### Market Competition:

Meritor R302  
Carlisle MB23  
BrakePro CM22A-1  
Marathon FLOE  
GreyRock 2020  
Abex 685, 697  
Fras-le 557

Size	FMSI	AL Factor	Rolling Radius	Max. G.A.W.R. Single/Tandem	Shoe Type	Bendix Friction
16.5" X 10"	4552	180	21.1"	25k	DAP	GOLD FF
16.5" X 5"	4524	132	21.1"	14.6k	DAP	GOLD FF
16.5" X 6"	4514	132	21.1"	16k	DAP	GOLD FF
16.5" X 7"	4515	165 / 180	21.1"	23k / 46k	DAP	GOLD FF
16.5" X 7"	4311	165 / 180	21.1"	23k / 46k	SAP	GOLD FF



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All Bendix® linings meet or exceed FMVSS121.

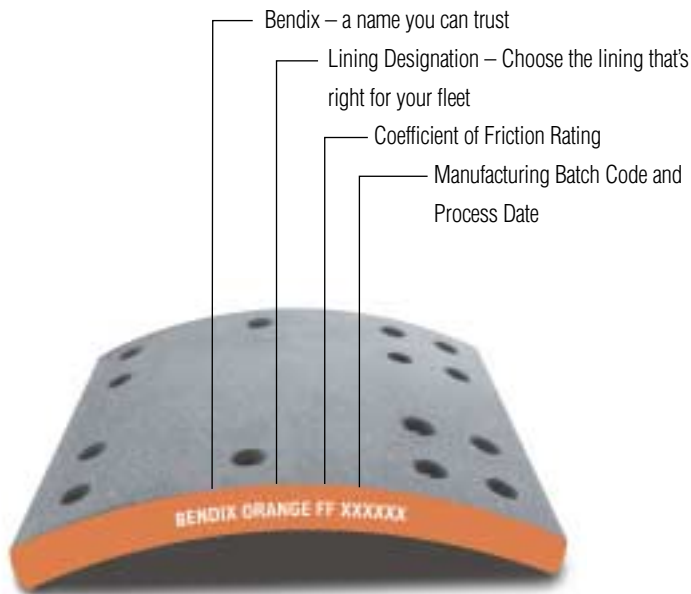
Our Orange FF Combination is engineered to provide a competitively priced lining for single axles up to a maximum of 23,000 lbs., and tandem axles up to a maximum of 46,000 lbs. G.A.W.R., using standard 16.5" x 7" brakes with 165 or 180 AL factors as specified in the chart below.

For steer axles, Orange linings are engineered to provide a competitively priced lining for up to a maximum of 16,000 lbs. G.A.W.R., using standard 16.5" x 6" brakes with 132 AL factor as specified in the chart below.

Designed to handle a complete weight range, from empty to maximum loads with consistent brake performance.

Designed with a uniquely formulated high friction Aramid compound on the anchor and high friction metallic compound on the cam end of the shoe, Orange linings can handle high temperature and severe duty environments both on and off the road.

## Orange FF Lining



### Applications:

Mining  
Logging  
Construction  
Heavy vocational vehicles

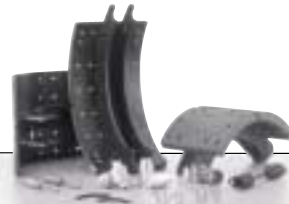
### Notes:

Available on standard shoes  
Use on drive and heavy steer axles

### Market Competition:

Carlisle MB62  
BrakePro CM42  
GreyRock 2040  
Abex 6069/695  
Fras-le 560/555

Size	FMSI	AL Factor	Rolling Radius	Max. G.A.W.R. Single/Tandem	Shoe Type	Bendix Friction
16.5" X 5"	4524	132	21.1"	14.6k	DAP	ORANGE FF
16.5" X 6"	4514	132	21.1"	16k	DAP	ORANGE FF
16.5" X 7"	4311	165 / 180	21.1"	23k / 46k	SAP	ORANGE FF
16.5" X 7"	4515	165 / 180	21.1"	23k / 46k	DAP	ORANGE FF



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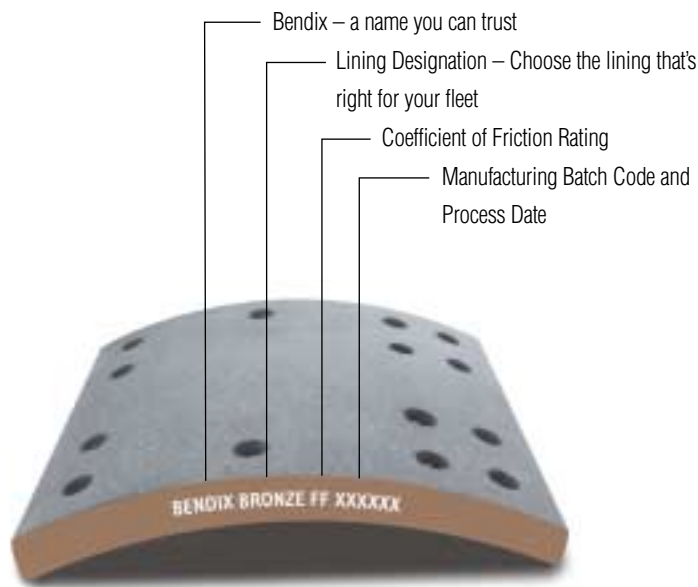
All Bendix® linings meet or exceed FMVSS121.

Our Bronze FF is engineered to provide a competitively priced lining for single axles up to a maximum of 23,000 lbs., and tandem axles up to a maximum of 46,000 lbs. G.A.W.R., using standard 16.5" x 7" brakes with 165 or 180 AL factors as specified in the chart below.

From empty to maximum loads, Bronze can handle a complete weight range with consistent brake performance.

Designed with a uniquely formulated high friction metallic compound, Bronze will easily handle high temperature and severe duty environments both on and off the road.

## Bronze FF Lining



<b>Applications:</b>
Mining Logging Construction Heavy vocational vehicles
<b>Notes:</b>
Available on standard shoes 100% full metallic lining
<b>Market Competition:</b>
Carlisle MB60 BrakePro CM46 GreyRock GM2040FF Abex 6069 GG

Size	FMSI	AL Factor	Rolling Radius	Max. G.A.W.R. Single/Tandem	Shoe Type	Bendix Friction
16.5" X 7"	4311	165 / 180	21.1"	23k / 46k	SAP	BRONZE FF
16.5" X 7"	4515	165 / 180	21.1"	23k / 46k	DAP	BRONZE FF



Bendix-leading the way in engineering and development of application specific products.

All Bendix® linings meet or exceed FMVSS121.

The economically minded ES 310 FF lining is engineered to provide the lowest cost per mile for single axles up to a maximum of 20,000 lbs., and tandem axles up to a maximum of 40,000 lbs. G.A.W.R., using 15" x 8.63" extended service brakes with 165 or 180 AL factors as specified in the chart below.

Our ES 310 is engineered to provide the lowest cost per mile for steer axles up to a maximum of 14,600 lbs. G.A.W.R., using 15" x 6" extended service brakes with 132 AL factor as specified in the chart below.

ES 310 is designed to handle empty to maximum loads with consistent brake performance and maximum drum life in a reduced envelope brake assembly.

## ES 310 FF Lining



### Applications:

Line haul trucks and trailers with reduced envelope brakes.

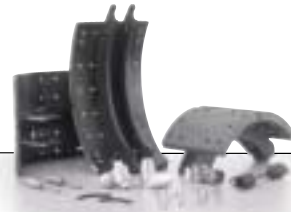
### Notes:

Available on ES or XLII shoes. Brake formulation for the reduced envelope brake assemblies.

### Market Competition:

NONE

Size	FMSI	AL Factor	Rolling Radius	Max. G.A.W.R. Single/Tandem	Shoe Type	Bendix Friction
15" X 8.63"	4717	165 / 180	16.7"	20k / 40k	SAP	ES 310 FF
15" X 8.63"	4710	165 / 180	16.7"	20k / 40k	DAP	ES 310 FF
15" X 6"	4716	132	19.6"	14.6k	SAP	ES 310 FF



Bendix-leading the way in engineering and development of application specific products.

All Bendix® linings meet or exceed FMVSS121.

Our ES 410 FF is engineered to provide an economical lining for drive and trailer single axles up to a maximum of 20,000 lbs., and tandem axles up to a maximum of 40,000 lbs. G.A.W.R., using 16.5" x 7" extended service brakes with 165 or 180 factors as specified in the chart below.

ES 410 is fast becoming one of the industry's standards as it handles a complete weight range, from empty to maximum loads with consistent brake performance and maximum drum life.

## ES 410 FF Lining



### Applications:

Line haul trucks and trailers

### Notes:

Available on ES or XLII shoes  
 Long life friction  
 Drum friendly friction, giving long drum life  
 Quiet friction material

### Market Competition:

Meritor R201, R202  
 Carlisle MB19, MB21  
 Abex 6008-1  
 Marathon DB20  
 GreyRock 2015

Size	FMSI	AL Factor	Rolling Radius	Max. G.A.W.R. Single/Tandem	Shoe Type	Bendix Friction
16.5" X 7"	4707	165 / 180	19.6"	20k / 40k	DAP	ES 410 FF
16.5" X 7"	4708	165 / 180	19.6"	20k / 40k	DAP	ES 410 FF
16.5" X 7"	4709	165 / 180	19.6"	20k / 40k	SAP	ES 410 FF





Bendix-leading the way in engineering and development of application specific products.

All Bendix® linings meet or exceed FMVSS121.

Our ES 420 FF lining is quickly becoming one of the industry's standards, and by far is the benchmark of quality for general line haul applications.

## ES 420 FF Lining

ES 420 is engineered to provide the lowest cost per mile for single axles up to a maximum of 23,000 lbs., and tandem axles up to a maximum of 46,000 lbs. G.A.W.R., using 16.5" x 8.63" extended service brakes with 165 or 180 AL factors as specified in the chart below.

For steer axles, ES 420 is engineered to provide the lowest cost per mile up to a maximum of 16,000 lbs. G.A.W.R., using 16.5" x 6" extended service brakes with 132 AL factor as specified in the chart below.

ES 420 handles a complete weight range, from empty to maximum load with consistent brake performance and maximum drum life.



### Applications:

Line haul trucks and trailers  
Refuse trucks  
Limited vocational trucks

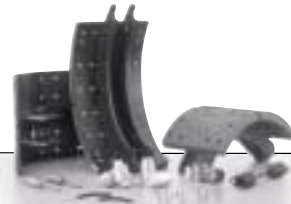
### Notes:

Available on ES or XLII shoes

### Market Competition:

Meritor R201, R202  
Carlisle MB21  
Abex 6011

Size	FMSI	AL Factor	Rolling Radius	Max. G.A.W.R. Single/Tandem	Shoe Type	Bendix Friction
15" X 4"	1443	110	19.6"	13.2k	SAP	ES 420 FF
15" X 4"	4702	110	19.6"	13.2k	DAP	ES 420 FF
16.5" X 5"	4719	132	19.6"	14.6k	SAP	ES 420 FF
16.5" X 5"	4720	132	19.6"	14.6k	DAP	ES 420 FF
16.5" X 6"	4725	132	19.6"	16k	SAP	ES 420 FF
16.5" X 6"	4715	132	19.6"	16k	DAP	ES 420 FF
16.5" X 7"	4707	165 / 180	19.6"	20k / 40k	DAP	ES 420 FF
16.5" X 7"	4708	165 / 180	19.6"	20k / 40k	DAP	ES 420 FF
16.5" X 7"	4709	165 / 180	19.6"	20k / 40k	SAP	ES 420 FF
16.5" X 8.63"	4726	165 / 180	19.6"	23k / 46k	SAP	ES 420 FF
16.5" X 8.63"	4711	165 / 180	19.6"	23k / 46k	DAP	ES 420 FF



Bendix-leading the way in engineering and development of application specific products.

All Bendix® linings meet or exceed FMVSS121.

Our ES 440 FF lining is the workhorse in the industry, providing the lowest cost per mile for single axles up to a maximum of 20,000 lbs., and tandem axles up to a maximum of 40,000 lbs. G.A.W.R., using 16.5" x 7" extended service brakes with 165 or 180 AL factors as specified in the chart below.

For steer axles, ES 440 provides the lowest cost per mile up to a maximum of 16,000 lbs. G.A.W.R., using 16.5" x 6" extended service brakes with 132 AL factor as specified in the chart below.

ES 440 is engineered for high mileage fleets as well as school bus fleets that are ready to take advantage of the latest technology in friction. ES 440 is especially designed for truck applications where airflow is limited to the brakes and for school buses where the duty cycle is high.

## ES 440 FF Lining



### Applications:

Line haul  
Vocational

### Notes:

Available on ES or XLII shoes  
New friction for the latest trucks  
Extremely versatile friction material  
Steer, drive, and trailer applications  
Extremely quiet friction material  
Excellent school bus application

### Market Competition:

Meritor R201, R202  
Carlisle MB21  
Abex 6011

Size	FMSI	AL Factor	Rolling Radius	Max. G.A.W.R. Single/Tandem	Shoe Type	Bendix Friction
15" X 4"	1443	110	19.6"	13.2k	SAP	ES 440 FF
15" X 4"	4702	110	19.6"	13.2k	DAP	ES 440 FF
16.5" X 5"	4719	132	19.6"	14.6k	SAP	ES 440 FF
16.5" X 5"	4720	132	19.6"	14.6k	DAP	ES 440 FF
16.5" X 6"	4725	132	19.6"	16k	SAP	ES 440 FF
16.5" X 6"	4715	132	19.6"	16k	DAP	ES 440 FF
16.5" X 7"	4707	165 / 180	19.6"	20k / 40k	DAP	ES 440 FF
16.5" X 7"	4708	165 / 180	19.6"	20k / 40k	DAP	ES 440 FF
16.5" X 7"	4709	165 / 180	19.6"	20k / 40k	SAP	ES 440 FF



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All Bendix® linings meet or exceed FMVSS121.

Our ES 450 FF cohesive lining is the next generation of line haul friction materials.

ES 450 is engineered to provide the lowest cost per mile for single axles up to a maximum of 20,000 lbs., and tandem axles up to a maximum of 40,000 lbs. G.A.W.R., using either 16.5" x 7" or 16.5" x 8.63" extended service brakes with 165 or 180 AL factors as specified in the chart below.

For steer axles, ES 450 is engineered to provide the lowest cost per mile up to a maximum of 12,000 lbs. G.A.W.R. using 16.5" x 6" extended service brakes with 132 AL factor as specified in the chart below.

Utilizing the latest cohesive friction, ES 450 is capable of handling a complete weight range, from empty to maximum load with consistent brake performance and maximum drum life.

## ES 450 FF Lining



### Applications:

Extra long life cohesive friction on highway line haul

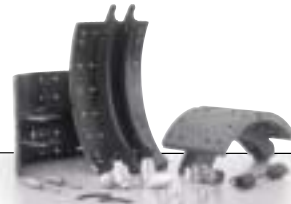
### Notes:

Available on ES or XLII shoes  
High initial cost with pay back for high mileage fleets  
Designed for the owner operator who needs to control cost.  
Requires new drums when this friction is installed.

### Market Competition:

Carlisle CF2000

Size	FMSI	AL Factor	Rolling Radius	Max. G.A.W.R. Single/Tandem	Shoe Type	Bendix Friction
15" X 4"	1443	110	19.6"	12k	SAP	ES 450 FF
15" X 4"	4702	110	19.6"	12k	DAP	ES 450 FF
16.5" X 5"	4719	132	19.6"	12k	SAP	ES 450 FF
16.5" X 5"	4720	132	19.6"	12k	DAP	ES 450 FF
16.5" X 6"	4725	132	19.6"	12k	SAP	ES 450 FF
16.5" X 6"	4715	132	19.6"	12k	DAP	ES 450 FF
16.5" X 7"	4707	165 / 180	19.6"	20k / 40k	DAP	ES 450 FF
16.5" X 7"	4708	165 / 180	19.6"	20k / 40k	DAP	ES 450 FF
16.5" X 7"	4709	165 / 180	19.6"	20k / 40k	SAP	ES 450 FF
16.5" X 8.63"	4711	165 / 180	19.6"	20k / 40k	DAP	ES 450 FF
16.5" X 8.63"	4726	165 / 180	19.6"	20k / 40k	SAP	ES 450 FF



Bendix-leading the way in engineering and development of application specific products.

All Bendix® linings meet or exceed FMVSS121.

Our ES 600 FF lining is engineered to meet the economy of lowest cost per mile for single axles up to a maximum of 22,000 lbs., and tandem axles up to a maximum of 44,000 lbs.

G.A.W.R., using either 16.5" x 7" or 16.5" x 8.63" extended service brakes with 165 or 180 AL factors as specified in the chart below.

For steer axles, ES 600 is engineered to provide the lowest cost per mile up to a maximum of 16,000 lbs. G.A.W.R., using 16.5" x 6" extended service brakes with 132 AL factor as specified in the chart below.

ES 600 can handle a complete weight range, from empty to maximum load with consistent brake performance and maximum drum life. It is extremely driver friendly, providing smooth, even stops regardless of the application-from line haul to local pick-up & delivery.

## ES 600 FF Lining



### Applications:

Medium to Heavy line haul  
all wheel position friction

### Notes:

Available on ES or XLII shoes  
Extremely versatile lining,  
may be downgraded for light loads  
Drive, Trailer and Steer axle

### Market Competition:

Meritor R301, R302  
Carlisle MB23  
Abex 685, 697

Size	FMSI	AL Factor	Rolling Radius	Max. G.A.W.R. Single/Tandem	Shoe Type	Bendix Friction
15" X 4"	1443	110	21.5"	13.2k	SAP	ES 600 FF
15" X 4"	4702	110	21.5"	13.2k	DAP	ES 600 FF
16.5" X 5"	4719	132	21.5"	14.6k	SAP	ES 600 FF
16.5" X 5"	4720	132	21.5"	14.6k	DAP	ES 600 FF
16.5" X 6"	4725	132	21.5"	16k	SAP	ES 600 FF
16.5" X 6"	4715	132	21.5"	16k	DAP	ES 600 FF
16.5" X 7"	4707	165 / 180	21.5"	22k / 44k	DAP	ES 600 FF
16.5" X 7"	4708	165 / 180	21.5"	22k / 44k	DAP	ES 600 FF
16.5" X 7"	4709	165 / 180	21.5"	22k / 44k	SAP	ES 600 FF
16.5" X 8.63"	4711	165 / 180	21.5"	22k / 44k	DAP	ES 600 FF
16.5" X 8.63"	4726	165 / 180	21.5"	22k / 44k	SAP	ES 600 FF



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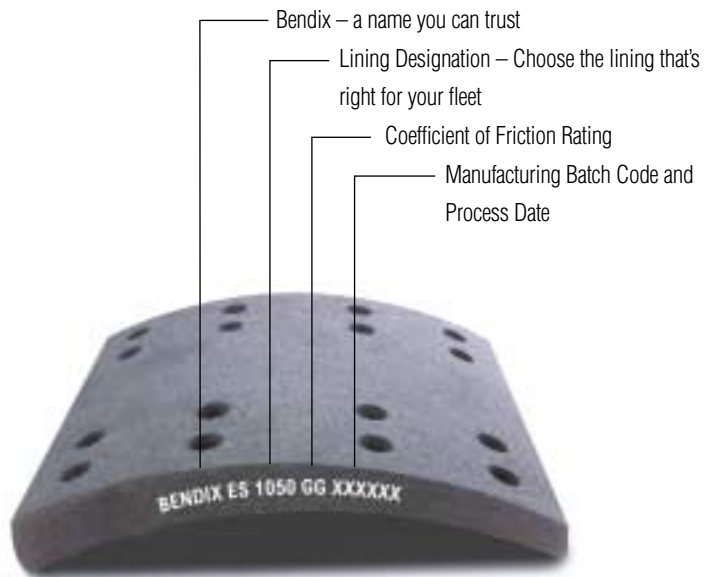
All Bendix® linings meet or exceed FMVSS121.

Our ES 1050 GG lining tames the high temperature and severe duty environments without the normal drum wear and noise sometimes experienced with metallic linings.

ES 1050 is engineered to provide the lowest cost per mile for high axle loads up to a maximum of 29,000 lbs. G.A.W.R., using 18" x 7" extended service brakes with 165 or 180 AL factors as specified in the chart below.

Its outstanding engineering and design provides noise-free results. Even when tested in intense city traffic, ES 1050 showed no evident brake noise.

## ES 1050 GG Lining



### Applications:

Refuse  
Fire Trucks  
Tractors used for specialty hauling

### Notes:

Available on ES or XLII shoes  
High torque but non-aggressive material  
Extremely quiet

### Market Competition:

Meritor R401, R403  
Carlisle MB60  
BrakePro CM29  
Abex 6040  
Fras-le AF587

Size	FMSI	AL Factor	Rolling Radius	Max. G.A.W.R. Single/Tandem	Shoe Type	Bendix Friction
16.5" X 5"	4719	132	19.6"	20k	SAP	ES 1050 GG
16.5" X 5"	4720	132	19.6"	20k	DAP	ES 1050 GG
16.5" X 6"	4725	132	19.6"	20k	SAP	ES 1050 GG
16.5" X 6"	4715	132	19.6"	20k	DAP	ES 1050 GG
16.5" X 7"	4707	180	21.5"	25k / 50k	DAP	ES 1050 GG
16.5" X 7"	4708	180	19.6"	26k / 52k	DAP	ES 1050 GG
16.5" X 7"	4709	180	19.6"	26k / 52k	SAP	ES 1050 GG
16.5" X 8.63"	4711	180	21.5"	25k / 50k	DAP	ES 1050 GG
16.5" X 8.63"	4726	180	19.6"	29k / 58k	SAP	ES 1050 GG
18" X 7"	4527	165 / 180	22.9"	29k	SAP	ES 1050 GG



Bendix-leading the way in engineering and development of application specific products.

All Bendix® linings meet or exceed FMVSS121.

Our ES 1100 GG lining provides a powerhouse of security. Designed with a full metallic lining, ES 1100 provides a premium lining for single axles up to a maximum of 26,000 lbs., and tandem axles up to a maximum of 52,000 lbs. G.A.W.R., using 16.5" x 8.63" brakes with 180 AL factor as specified in the chart below.

ES 1100 handles a complete weight range, from empty to maximum load with consistent brake performance. Its uniquely formulated high-friction metallic compound is designed to handle high temperature and severe duty environments on and off the road.

## ES 1100 GG Lining



### Applications:

- Mining
- Logging
- Construction
- Fire Trucks
- Heavy vocational vehicles

### Notes:

- Available on ES or XLII shoes
- Large torque capacity
- Great stopping power

### Market Competition:

- Carlisle MB60
- BrakePro CM46
- GreyRock GM2040FF
- Abex 6069GG

Size	FMSI	AL Factor	Rolling Radius	Max. G.A.W.R. Single/Tandem	Shoe Type	Bendix Friction
16.5" X 7"	4707	165 / 180	19.6"	23k / 46k	DAP	ES 1100 GG
16.5" X 7"	4708	165 / 180	19.6"	23k / 46k	DAP	ES 1100 GG
16.5" X 7"	4709	165 / 180	19.6"	23k / 46k	SAP	ES 1100 GG
16.5" X 8.63"	4726	180	19.6"	26k / 52k	SAP	ES 1100 GG
16.5" X 8.63"	4711	180	19.6"	26k / 52k	SAP	ES 1100 GG



Bendix-leading the way in engineering and development of application specific products.

All Bendix® linings meet or exceed FMVSS121.

Our ES 1100/600 FF Combination lining provides the lowest cost per mile for single axles up to a maximum of 26,000 lbs., and tandem axles up to a maximum of 52,000 lbs. G.A.W.R., using 16.5" x 7" extended service brakes with 165 or 180 AL factors as specified in the chart below.

For steer axles, ES 1100/600 provides the lowest cost per mile up to a maximum of 20,000 lbs. G.A.W.R., using either 16.5" x 5" or 16.5" x 6" extended service brakes with 132 AL factor as specified in the chart below.

ES 1100/600 handles a complete range of performance applications from empty to maximum load capacity. It features a uniquely formulated high-friction organic compound on the anchor and a high friction metallic compound on the cam end of the shoe. Spicer ES 1100/600 is designed to handle high-temperature, severe-duty environments both on and off the road.

## ES 1100/600 FF Lining



### Applications:

Mining  
Logging  
Construction  
Heavy vocational vehicles

### Notes:

Available on ES or XLII shoes  
Excellent to balance a brake system  
Use on heavy steer axles  
Specified to reduce noise sensitive applications

### Market Competition:

Carlisle MB62  
BrakePro CMB42  
Grey Rock 2020/2040  
Abex 6069/685  
Marathon MBC

Size	FMSI	AL Factor	Rolling Radius	Max. G.A.W.R. Single/Tandem	Shoe Type	Bendix Friction
16.5" X 5"	4719	132	21.5"	20k	SAP	ES 1100/600 FF
16.5" X 5"	4720	132	21.5"	20k	DAP	ES 1100/600 FF
16.5" X 6"	4725	132	21.5"	20k	SAP	ES 1100/600 FF
16.5" X 6"	4715	132	21.5"	20k	DAP	ES 1100/600 FF
16.5" X 7"	4707	165/180	21.5"	26k / 52k	DAP	ES 1100/600 FF
16.5" X 7"	4708	165/180	21.5"	26k / 52k	DAP	ES 1100/600 FF
16.5" X 7"	4709	165/180	21.5"	26k / 52k	SAP	ES 1100/600 FF



# Bendix® Linings Typical Applications Chart

(Drive and Trailer Axle)



Refuse Truck

	GOOD	BETTER	BEST
Standard Platform	YELLOW	GOLD	ORANGE
Extended Service Platform	ES690	ES440	ES1160



Mixer (Tandem Axle)

	GOOD	BETTER	BEST
Standard Platform	YELLOW	GOLD	ORANGE
Extended Service Platform	ES690	ES440	ES1160



Tandem Dump

	GOOD	BETTER	BEST
Standard Platform	YELLOW	GOLD	ORANGE
Extended Service Platform	ES690	ES440	ES1160



Beverage

	GOOD	BETTER	BEST
Standard Platform	BLUE	RED	GOLD
Extended Service Platform	ES420	ES600	ES440



School Bus

	GOOD	BETTER	BEST
Standard Platform	BLUE	RED	GOLD
Extended Service Platform	ES420	ES600	ES440



Tri-Axle Dump Trailer

	GOOD	BETTER	BEST
Standard Platform	RED	GOLD	ORANGE
Extended Service Platform	ES600	ES440	ES1160



Tanker

	GOOD	BETTER	BEST
Standard Platform	BLUE	RED	GOLD
Extended Service Platform	ES420	ES600	ES440



Double

	GOOD	BETTER	BEST
Standard Platform	SILVER	BLUE	RED
Extended Service Platform	ES410	ES420	ES600



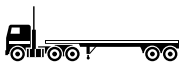
Moving Van - Low Profile

	GOOD	BETTER	BEST
Standard Platform	–	–	RED
Extended Service Platform	–	–	ES310



Tandem Axle Tractor Trailer

	GOOD	BETTER	BEST
Standard Platform	SILVER	BLUE	RED
Extended Service Platform	ES410	ES420	ES600



Flatbed

	GOOD	BETTER	BEST
Standard Platform	SILVER	BLUE	RED
Extended Service Platform	ES410	ES420	ES600



Single Axle Tractor Trailer

	GOOD	BETTER	BEST
Standard Platform	RED	YELLOW	GOLD
Extended Service Platform	ES600	ES690	ES440











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