

**Hindenburg**  
**Loading & Fuel Consumption Study**  
**Flights 9 - 17**

LOADING (PRELIMINARY) FOR FLIGHT #9, LZ 129

Friedrichshafen to Rio on March 31, 1936

Passengers (37) - - - - -	2,960	kg	
Engine personnel (23) - - - - -	1,840		
Deck force (21) - - - - -	1,680		
Steward personnel (10) - - - - -	800		
Baggage for passengers - - - - -	600		b = 729 mm
Baggage for crew - - - - -	1,080		T <sub>1</sub> = 9.0 C
Provisions - - - - -	3,000		T <sub>2</sub> = 13.0 C
Freight - - - - -	1,269		R <sub>2</sub> = 85 %
Mail - - - - -	84		sH = 0.090
Fuel oil - - - - -	55,230		
Lub. oil - - - - -	4,000		C = 1.0935 (?)
Kerosine - - - - -	---		1.070
Reserve parts - - - - -	1,200		
Reserve radiator water - - - - -	1,400		
Drinking water and liquors - - - - -	1,150		
Trim ballast - - - - -	11,300		
Emergency ballast - - - - -	3,000		
Miscellaneous - - - - -	1,120		
Bedding, utensils, etc - - - - -	2,500		
Moisture - - - - -	1,000		
Lightness - - - - -	1,000		
Total - - - - -	96,213	kg	
Dead weight (approx.) - - - - -	118,000		
	TOTAL - - -	214,213	kg
Required gas volume - - - - -	202,000	cbm	

Take off, Friedrichshafen, 0432 Gmt, Mar. 31, 1936  
 Landing, Rio, 0912 Gmt, Apr. 4, 1936

Total time, - - - - - 100:40  
 Total distance - - - - - 5,948 sm

Fuel oil required - - - - - 46,530 kg  
 Lub. oil required - - - - - 1,700 kg

sm = Sea Mile = Nautical Mile:  
 Symbol: "M" or "NM"  
 6080 feet  
 1853.25 metres

46,530 kg = 102,581 lbs = 14,655 gallons of fuel consumed  
 14,655 gallons ÷ 100.667 hrs = 146 gal / hr average fuel consumption

LOADING (PRELIMINARY) FOR FLIGHT #10, LZ 129

Rio to Friedrichshafen on April 6, 1936

Passengers (38)	- - - - -	3,040 kg	
Engine personnel (23)	- - - - -	1,840	
Deck force (21)	- - - - -	1,680	
Steward personnel (10)	- - - - -	800	
Baggage for passengers	- - - - -	800(?)	b = 752 mm
Baggage for crew	- - - - -	1,080	
Provisions	- - - - -	3,000	T <sub>1</sub> = 22.0 C
Freight	- - - - -	80	
Mail	- - - - -	70	T <sub>g</sub> = 23.0 C
Fuel oil	- - - - -	58,880	
Lub. oil	- - - - -	4,000	R <sub>f</sub> = 100 %
Kerosine	- - - - -	100	
Reserve parts	- - - - -	1,200(?)	sH = 0.090
Reserve radiator water	- - - - -	-1,200	
Drinking water and liquors	- - - - -	2,000(?)	C = 1.05 (?)
Trim ballast	- - - - -	5,950	
Emergency ballast	- - - - -	2,000	
Miscellaneous	- - - - -	1,120(?)	
Bedding, utensils, etc.	- - - - -	2,500(?)	
Moisture	- - - - -	1,500(?)	
Lightness	- - - - -	500(?)	
Total	- - - - -	91,340 kg	
Dead weight (approx)	- - - - -	118,000	
	TOTAL	209,340 kg	
Required gas volume	- - - - -		cbm

Take off, Rio - - - - - -0945 Gmt, April 6, 1936  
 Landing, Friedrichshafen - - - - - 1737 Gmt, April ~~10~~, 1936  
 10, 1936

Total time - - - - - 103:52  
 Total distance - - - - - 5350 sm

Fuel oil required - - - - - 36,000kg  
 Lub. oil required - - - - - 1,400kg

Rain water collected - - - - - 7,650 kg

sm = Sea Mile = Nautical Mile:  
 Symbol: "M" or "NM"  
 6080 feet  
 1853.25 metres

36,000 kg = 79,366 lbs = 11,338 gallons of fuel consumed

11,338 gal ÷ 103.867 hrs = 109 gal / hr average fuel consumption

LOADING FOR FLIGHT NO. 12, LZ 129  
Friedrichshafen to Lakehurst, May 6 to 9, 1936

Passengers (50) - - - - -	4000kg
Engine personnel (21) - - - - -	1680
Deck force (24) - - - - -	1920
Steward force (10) - - - - -	800
Baggage for passengers (345+913) - - - - -	1258
Baggage for crew - - - - -	1500
Provisions and liquors (2300+1500) - - - - -	3800
Freight - - - - -	134
Mail - - - - -	1025
Fuel oil - - - - -	50350
Lub. oil - - - - -	4000
Kerosine - - - - -	100
Reserve parts - - - - -	3000
Rse. radiator water - - - - -	1200
Fresh water - - - - -	2500
Trim ballast - - - - -	4000
Emerg. ballast - - - - -	1500
Miscellaneous - - - - -	
Fixed miscellaneous - - - - -	
Moisture - - - - -	
Lightness - - - - -	<u>600</u>

Fuel consumed - - - -	33,100 kg
Oil " - - - -	1,066 "
Reserve fuel - - - -	17,250 "
(At cruising speed)	32.6 hrs.

Duration - - - - 61:40 hrs  
Distance - - - - 7050 km.  
3830 km. mi.

33,100 kg = 72,973 lbs = 10,425 gallons of fuel consumed  
10,425 gal ÷ 61.667 hrs = 169 gal / hr average fuel consumption

LOADING FOR FLIGHT NO. 14, LZ 129  
Frankfurt to Lakehurst, May 17 to 20, 1936

Passengers (41) - - - - -	3280 kg
Engine personnel (21) - - - - -	1680
Deck force (21) - - - - -	1680
Steward force (11) - - - - -	880
Baggage for passengers - - - - -	
Baggage for crew - - - - -	1500
Provisions and liquors - - - - -	
Freight - - - - -	
Mail - - - - -	130
Fuel oil - - - - -	64160
Lub. oil - - - - -	3400
Kerosine - - - - -	50
Reserve parts - - - - -	3500
Res. radiator water - - - - -	150
Fresh water - - - - -	7500
Trim ballast - - - - -	4750
Emerg. ballast - - - - -	2000
Miscellaneous - - - - -	530
Fixed miscellaneous - - - - -	
Moisture - - - - -	
Lightness - - - - -	

Fuel consumed - - - - 41,110 kg	Duration - - - - 78:30 hrs.
Oil " - - - - 1,305 "	Distance - - - - 7238 km. 3920 kn. mi.
Reserve fuel - - - - 13,050 "	
(At cruising speed) 24.6 hrs.	

41,110 kg = 90,632 lbs = 12,947 gallons of fuel consumed  
12,947 gal ÷ 78.5 hrs = 165 gal / hr average fuel consumption

LOADING FOR FLIGHT NO. 15, LZ 129  
 Lakehurst to Frankfurt, May 20, 1936 to May 23, 1936

Passengers (57) - - - - -	4560 kg
Engine personnel (21) - - - - -	1680
Deck force (21) - - - - -	1680
Steward force (11) - - - - -	880
Baggage for passengers - - - - -	
Baggage for crew - - - - -	1500
Provisions and liquors - - - - -	
Freight - - - - -	<del>1150</del>
Mail (140+10) - - - - -	150
Fuel oil - - - - -	55330
Lub. oil - - - - -	3400
Kerosine - - - - -	50
Reserve parts - - - - -	3500
Res. radiator water - - - - -	150
Fresh water - - - - -	7500
Trim ballast - - - - -	1500
Emerg. ballast - - - - -	3000
Miscellaneous - - - - -	
Fixed miscellaneous - - - - -	
Moisture - - - - -	
Lightness - - - - -	

Fuel consumed - - - -	25,830 kg	Duration - - - -	48:08 hrs.
Oil " - - - -	997 "	Distance - - - -	6566 km 3550 kn.mi.
Reserve fuel - - - -	29,500 "		
(At cruising speed)	55.7 hrs		

25,830 kg = 56,945 lbs = 8,135 gallons of fuel consumed  
 8,135 gal ÷ 48.133 hrs = 169 gal / hr average fuel consumption

LOADING FOR BLIGHT NO. 16, LZ 129  
Frankfurt to Rio de Janeiro, May 25, 1936

Passengers (30) - - - - -	2400 kg
Engine personnel (21) - - - - -	1680
Deck force (21) - - - - -	1680
Steward force (11) - - - - -	880
Baggage for passengers - - - - -	609
Baggage for crew - - - - -	1500
Provisions and liquors - - - - -	
Freight (875 for airplane) - - - - -	1081
Mail - - - - -	87
Fuel oil - - - - -	55230
Lub. oil - - - - -	4000
Kerosine - - - - -	50
Spare parts - - - - -	3500
Res. radiator water - - - - -	150
Fresh water - - - - -	7500
Trim ballast - - - - -	1000
Emerg. ballast - - - - -	2500
Miscellaneous - - - - -	
Fixed miscellaneous - - - - -	
Moisture - - - - -	
Lightness - - - - -	

Fuel consumed - - -	43,080 kg
Oil " - - -	1,315 "
Reserve fuel - - -	12,150 "
(At cruising speed)	23 hrs

Duration - - - 83:13 hrs  
Distance - - - 5652 kn. mi.  
10400 km.

43,080 kg = 94,975 lbs = 13,568 gallons of fuel consumed  
13,568 gal ÷ 83.217 hrs = 163 gal / hr average fuel consumption

LOADING FOR FLIGHT NO. 17, LZ 129  
Rio de Janeiro to Frankfurt, May 30, 1936

Passengers (42) - - - - -	3360 kg
Engine personnel (21) - - - - -	1680
Deck force (21) - - - - -	1680
Steward force (11) - - - - -	880
Baggage for passengers - - - - -	1000
Baggage for crew - - - - -	1500
Provisions and liquors - - - - -	1550
Freight - - - - -	74
Mail - - - - -	10
Fuel oil - - - - -	54840
Lub. oil - - - - -	3500
Kerosine - - - - -	50
Spare parts - - - - -	3500
Res. radiator water - - - - -	150
Fresh water - - - - -	7500
Trim ballast - - - - -	2300
Emerg. ballast - - - - -	3000
Miscellaneous - - - - -	510
Fixed miscellaneous - - - - -	
Moisture - - - - -	
Lightness - - - - -	

Fuel consumed - - - 42,970 kg	Duration - - - - 93:17 hrs
Oil " - - - 1,360 "	Distance - - - - 5580 km.mi 10301 km.
Reserve fuel - - - 11,870 "	
(At cruising speed) 22.5 hrs	

42,970 kg = 94,733 lbs = 13,533 gallons of fuel consumed

13,533 gal ÷ 93.283 hrs = 145 gal / hr average fuel consumption