

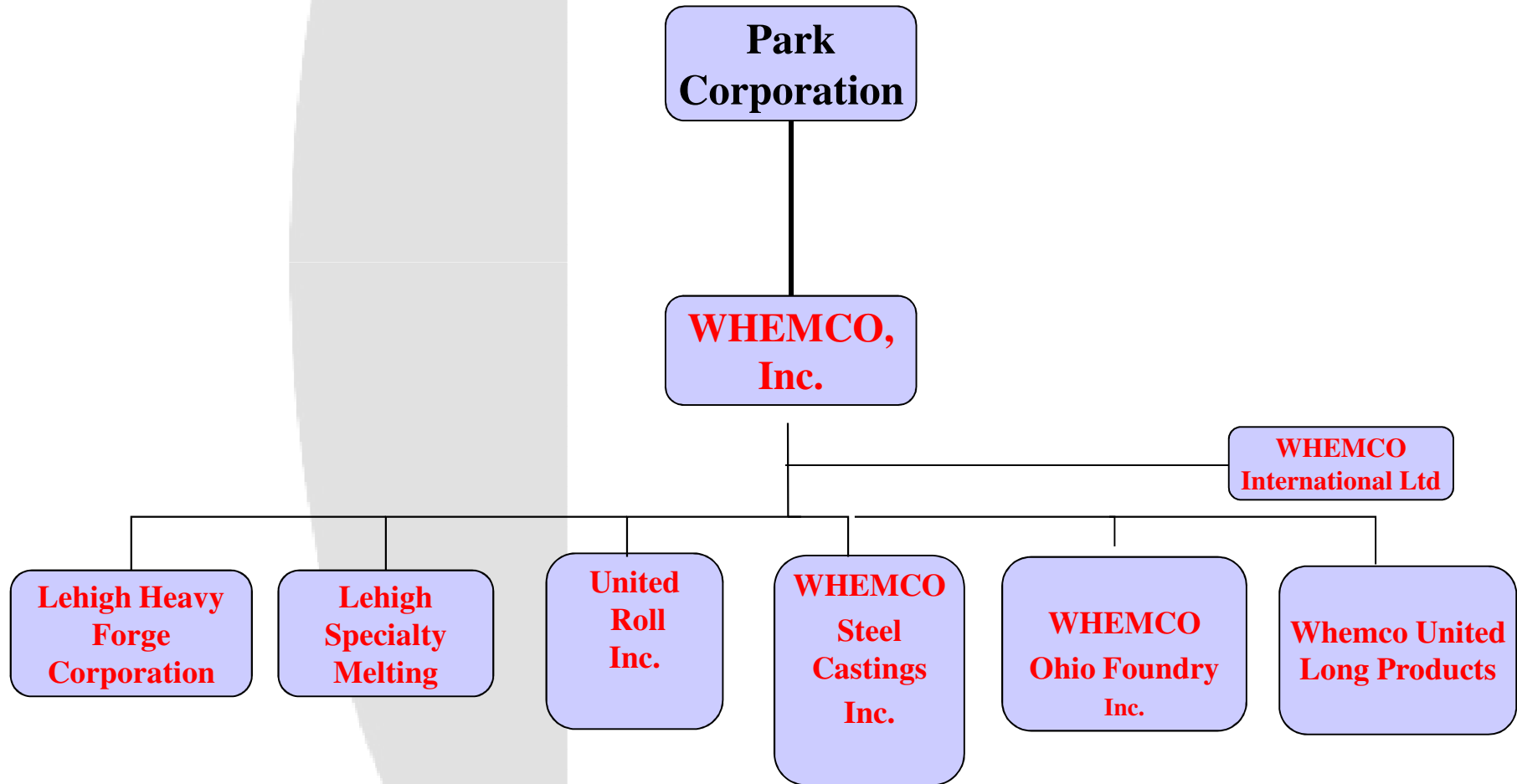


# WHEMCO Inc.

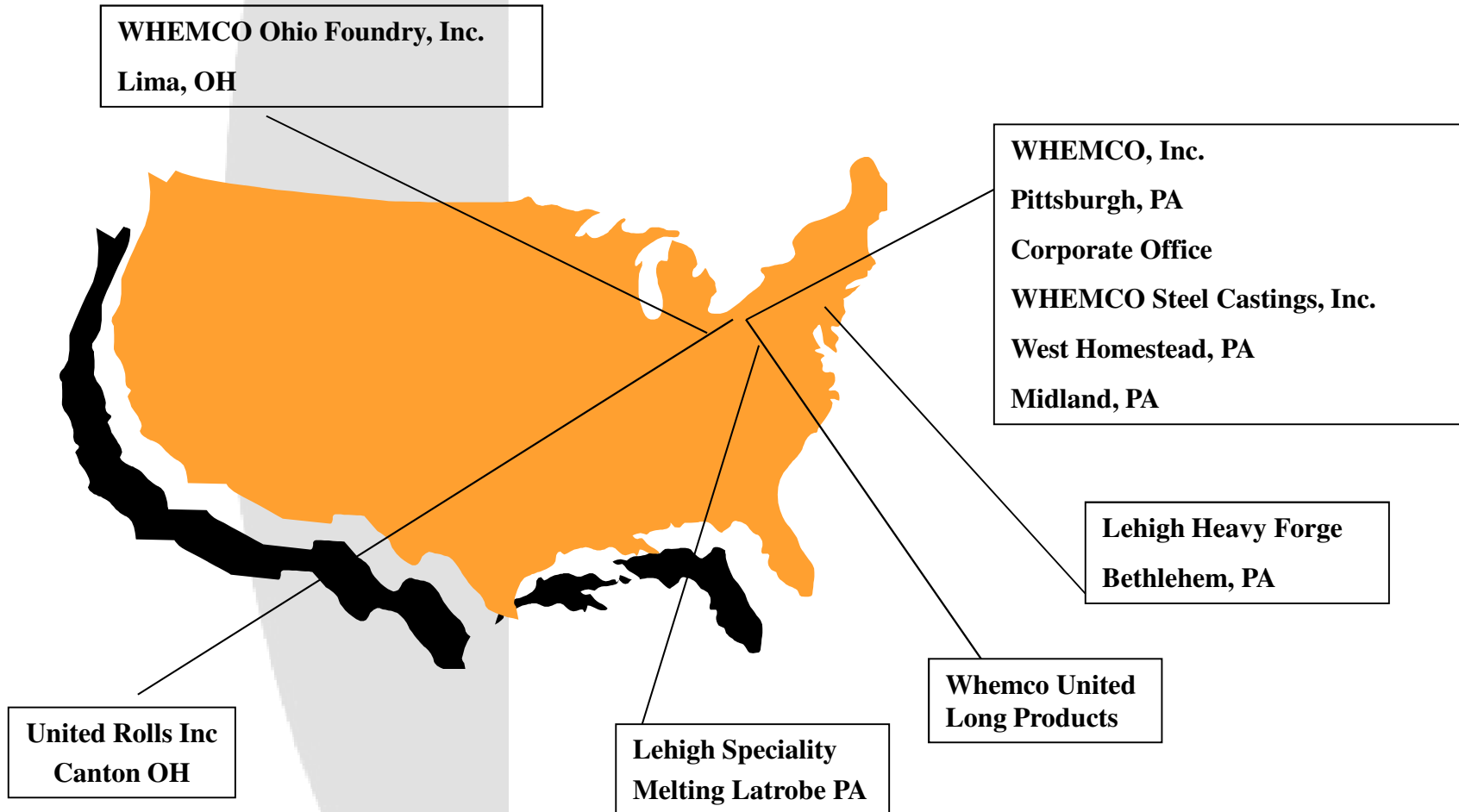
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# CORPORATE STRUCTURE

(Rolls)



# Plant Location





# PARK CORPORATION

- **Privately held**
- **Debt free**
- **Diverse range of Interests including:**
  - Whemco Companies are:  
Manufactures of Steel, Oil & Power Generation  
Products

# WHEMCO, Inc.

- Over \$250m annual sales with over 850 employees
- Large Iron and Steel products for:
  - Steel and Aluminium mills
  - Nuclear Reactors
  - Ship Propulsion
  - Petro chemical Industry

# Whemco's History

- All sites have over 100 year experience
- Park Corporation started building the Whemco group in 1983.
  - **MESTA and Mack Hemp** purchased and renamed **WHEMCO Steel Castings Inc.**
  - **Teledyne Ohio** purchased and renamed **WHEMCO Ohio Foundry Inc.**
  - **Erie Forge** purchased
  - **Beth Forge** purchased and renamed **Lehigh Heavy Forge Corporation**
  - **Standard Steel** purchased 2004 renamed **Lehigh Specialty Melting**
  - **Johnstown Roll Company** purchased 2005 renamed **Whemco United Long Products**
  - **United Foundries** purchased 2010 renamed **United Rolls Inc**

# WHEMCO, Inc.

- **Largest Roll Maker** in USA.
- **Only Roll Maker** in USA able to supply all types of rolls for all mill applications:
  - Forged rolls: 1 to 140 t
  - Cast Steel BU rolls: 20 to 75 t
  - Cast Section mill rolls: up to 50t
  - Iron rolls: up to 50t

# Product Line – Summary

- **Lehigh Heavy Forge Corporation (LHFC)** (Bethlehem PA)
  - **Forged Steel Work Rolls and Back Up Rolls**
    - Hot and Cold Mills, Plate Mill and Aluminum Mill back up rolls.
    - Cold strip mill work rolls
    - Hot and Cold Aluminium work rolls
    - Full range of 3 to 5% Cr roll grades for work and backup rolls
  - **Large Forgings**
    - Power Generation, Military, Petro Chemical, General Engineering



# Product Line - Summary

- **WHEMCO Steel Castings, Inc.** (Pittsburgh PA)
  - **Cast Steel Back Up Rolls**
    - Hot Mills, Plate Mills, Cold Mills, Temper Mills
    - Back Up rolls made in 3 to 5%Cr as mono bloc castings; differentially hardened.
  - **Slag Pots**
    - Melt shops for ferrous and non-ferrous products
  - **Coiler Drums**
    - Steckel Mills
  - **Large Castings**
    - Die Blocks, Housings, Back Up Chocks

# Product Line – Summary

- **WHEMCO Ohio Foundry, Inc. ( Lima OH)**
  - **Cast Iron Spun Cast Work Rolls**
    - Hot Mills, Plate Mills, Tin Mills, Cold Mills.
    - ICDP; HiCr iron;
  - **Iron Back Up Rolls**
    - Temper Mills, Galvanize Lines
  - **Iron Long Product Mill Rolls**
    - SG iron from 5 to 40 t

# Product Line – Summary

- **United Rolls, Inc.** ( Canton OH)
  - **Cast Iron Spun Cast Work Rolls (Finishing and Roughing)**
    - Hot Mills, Plate Mills, Tin Mills, Cold Mills.
    - ICDP; HiCr iron; HiCr steel; HSS; Semi HSS; Carbide enhanced grades
  - **Large Spun Cast Iron Rolls.**
    - Temper Mills, Galvanize Lines
    - Plate Mill work rolls.

# Product Line – Summary

- **Whemco United Long Products.**
  - **Cast Steel Rolls**
    - **Structural Mill Rolls**
      - High Carbon Steel rolls (Adamite) 2 tonnes up to 35 tonnes finished weight
      - Medium Carbon Steel rolls up to 65 tonnes
      - High Alloy 1.5 to 2.0 C steel sleeves for UBB up to 1650 mm dia
      - High Cr steels (K Metal) sleeves for UBB up to 1650 mm dia
    - **Rod and Bar mill Rolls**
      - Off shore manufacture: Adamite ; ICDP; SG
      - Quality controlled in US.
      - Powder Metallurgy used to manufacture 9% Vanadium rolls in US

# Whemco Inc. Summary Flat Mill Roll Capabilities:

	Barrel				Max Finished Weight Kg.
	Min Dia. mm	Max Dia. mm	Max Length mm	Max Total length mm	
<b>Cast Steel Rolls</b>	500	1650	3900	6350	65,000
<b>Forged BU Rolls</b>	1200	2100	4000	7000	145,000
<b>Spun Cast Work Rolls</b>	450	1130	4300	7000	40,000
<b>Forged Work Rolls</b>	400	800	2250	4000	12,000



# Whemco Inc. Summary Flat Mill Roll Capabilities:

Mill	Application	Grades Offered
Hot Strip Mill	Work Rolls	ICDP (including enhanced carbide)
		HiCr iron (including enhanced carbide)
		HiCr steel SYNERGY 500
		HSS SYNERGY 100
		Semi HSS
Cold Strip Mill	Work Rolls	3%-5% Cr Forged Steel:
		Gas Hardened
		Induction Hardened (Temper Mills Only)
		Spun Cast HiCr iron or HSS



# Whemco Inc. Summary Flat Mill Roll Capabilities:

Mill	Application	Grades Offered
Hot Strip Mill	Backup Rolls	3% - 5% Cr Mono Bloc Cast Steel
		3% - 5% Cr Forged Steel
		Differential Hardened to 680-760 Ld
Cold Strip Mill	Backup Rolls	3% - 5% Cr Mono Bloc Cast Steel
		3% - 5% Cr Forged Steel
		Differential Hardened to 680-760 Ld
		ICDP or SG Cast Iron
		(Temper and Skin Pass Mills only)



# Whemco Inc. Summary Flat Mill Roll Capabilities:

Mill	Application	Grades Offered
Plate Mills	Work Rolls	Spun Cast:
		ICDP
		HiCr iron
Plate Mills	Backup Rolls	3% Cr Mono Bloc Cast Steel (75t max)
		3% Forged Steel (140t max)
		Hardened to 620-680 Ld



# Whemco Inc. Summary Long Product Roll Capabilities:

	Barrel				Max Finished Weight Kg.
	Min Dia. mm	Max Dia. mm	Max Length mm	Max Total length mm	
<b>Cast Steel Rolls</b> (0.8 to 2.2 C)	500	1500	3000	6000	35,000
<b>Sleeves</b> (Alloy Steels and HiCr)	800	1650	1200		20,000
<b>SG Iron</b>	500	1500	3800	6000	50,000



# Whemco Inc. Summary Section Mill Roll Capabilities:

Mill	Application	Grades Offered	
Large Sections (Channels; Rails; Angels; Piles)	Work Rolls	High Carbon Steels (0.8-2.0C )	38/50 HsC
		Alloy Steels (0.8-1.8C )	50/65 HsC
		SG Irons	40/65 HsC
Universal Mills (Beams; Channels; Rails)	Horizontal	Sleeves:	
		Alloy Steels (0.8-1.8C )	50/65 HsC
		HiCr Steels	60/75 HsC
	Verticals	SG Irons	55/65 HsC
		HiCr Steels	55/65 HsC
	Edger	SG or AIC irons	50/60 HsC