

A tall, vertical industrial distillation column with a spiral staircase winding around it, set against a clear blue sky. The column is connected to other industrial structures at the bottom.

Catalogue of
Lubricants
for Industry



Start

Catalogue of Lubricants for Industry



Introduction

Ranges and Sectors

Range: Main characteristics

At Repsol Lubricants we have a wide range of industrial Lubricants that comply with the *most stringent quality standards*.

This is how we can ensure that your machines and equipment are perfectly lubricated and protected, to enhance their functions, improve their performance, encourage energy savings and extend the service life.

Repsol Industrial Lubricants are the best solution for your industrial machines and equipment.



Catalogue of Lubricants for Industry



Introduction

Ranges and Sectors

Range: Main characteristics

Discover our Lubricants by **RANGES AND SECTORS**

Click on the range of Lubricants which best fits your needs to obtain more information.
To find out about the industrial process for each one, click on the specific sector.

• RANGES •

• SECTORS •

	Hydraulic Oils	Gears	Turbines	Compressors	Transformer Oils	Metalworking Fluids
Iron & Steel	✓	✓			✓	✓
Cement	✓	✓				
Paper Mills	✓	✓	✓	✓	✓	
Chemical Industry	✓	✓	✓	✓		
Energy	✓	✓	✓		✓	
Mining	✓	✓		✓		

Catalogue of Lubricants for Industry



Introduction

Ranges and Sectors

Range: Main characteristics

Learn about the **TECHNICAL CHARACTERISTICS** of our Lubricants

Click on the range of Lubricants for further information:

Hydraulic oils

Gears

Turbines and compressors

Refrigeration equipment

Slideways

Heat transfer

General purpose oils

Circulation

Pneumatic tools

Transformer oils

Steam machines

Continuous casting

Metal cutting and polishing

Rolling and deformation

Processes

Rust preventive

Quenching

Mould-release oils

Check the technical characteristics of each lubricant in detail:

<http://www.repsol.com/SA/ProductosyServicios/BuscadorPySLubricantes/>

Technical data: Hydraulic oils



Introduction

Ranges and Sectors

Range: Main characteristics

HYDROFLUX EP @

General purpose hydraulic oil with high resistance to rust and aging, and provides anti-wear protection, has good anti-foaming properties and is very easily separated from water.

ISO GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]	FZG Min. scuffing load stage	Time for Neutralization No. 2 [h]	Quality level DIN 51524
	cSt [40 °C]	cSt [100 °C]	Viscosity Index					
22	22	4.3	103	-24	202	10	>1500	HLP
32	32	5.3	98	-24	218	10	>1500	HLP
46	46	6.7	98	-24	230	10	>1500	HLP
68	68	8.8	98	-24	240	10	>1500	HLP
100	100	11.1	97	-21	250	10	>1500	HLP
150	150	14.6	96	-21	252	10	>1500	HLP

Technical data: Hydraulic oils



Introduction

Ranges and Sectors

Range: Main characteristics

TELEX E

Hydraulic oil designed for use in hydraulic circuits and public works machinery equipped with any pump.
In general, for any mechanism requiring high anti-wear properties.

ISO GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]	FZG Min. scuffing load stage	Time for Neutralization No. 2 [h]	Quality level DIN 51524
	cSt (40 °C)	cSt (100 °C)	Viscosity Index					
5	5	1.6	-	-30	110	-	>1000	HLP
10	10	2.7	108	-27	146	-	>1000	HLP
15	15	3.5	113	-27	184	12	>2500	HLP
22	22	4.4	107	-27	202	12	>2500	HLP
32	32	5.4	104	-24	218	12	>2500	HLP
46	46	6.7	98	-24	230	12	>2500	HLP
68	68	8.6	98	-24	240	12	>2500	HLP
100	100	11.2	97	-21	250	12	>2500	HLP

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LIBRA HIDRÁULICO HLP @

Hydraulic oil formulated with a blend of mineral bases and high quality regenerated bases, suitable for use in circuits under severe regimes requiring special anti-wear protection. As a further step in Repsol's commitment to sustainable development, this product range complies with waste management and is the link that closes the ecological chain of the production, use, collection and recovery of Lubricants.

ISO GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]	FZG Min. scuffing load stage	Time for Neutralization No. 2 [h]	Quality level DIN 51524
	cSt [40 °C]	cSt [100 °C]	Viscosity Index					
32	32	5.4	95	-21	200	11	>1500	HLP
46	46	6.9	95	-21	210	11	>1500	HLP
68	68	8.6	95	-21	220	11	>1500	HLP

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Technical data: Hydraulic oils



Introduction

Ranges and Sectors

Range: Main characteristics

TELEX HVLP @

Hydraulic oil designed for use in hydraulic circuits subject to different changes of temperature, weather or low operating temperatures. Excellent performance in hydraulic systems used in marine applications.

ISO GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]	FZG Min. scuffing load stage	Time for Neutralization No. 2 [h]	Quality level DIN 51524
	cSt [40 °C]	cSt [100 °C]	Viscosity Index					
15	15	4.0	145	-45	195	11	>2500	HVLP
22	22	4.9	150	-39	205	11	>2500	HVLP
32	32	6.3	150	-30	218	12	>2500	HVLP
46	46	8.1	150	-30	230	12	>2500	HVLP
68	68	10.9	150	-30	240	12	>2500	HVLP

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HIDRÁULICO SC

Hydraulic oil for use in hydraulic circuits with very fine tolerance servo valves and, where required, excellent filterability.

ISO GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]	FZG Min. scuffing load stage	Time for Neutralization No. 2 [h]	Quality level DIN 51524
	cSt [40 °C]	cSt [100 °C]	Viscosity Index					
32	32	5.4	102	-20	218	10	>1500	HLP
46	46	6.7	98	-20	230	10	>1500	HLP
68	68	8.6	99	-20	240	10	>1500	HLP

32

46

68

HIDRÓLEO @

Hydraulic oil for use in circuits using servos and where filterability is very demanding (servo, robotics, etc.) and in systems where high temperature changes occur.

- 32
- 46
- 68
- 100**

ISO GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]	FZG Min. scuffing load stage	Time for Neutralization No. 2 [h]	Quality level DIN 51524
	cSt [40 °C]	cSt [100 °C]	Viscosity Index					
32	32	6.3	150	-33	218	10	>1500	HVLP
46	46	8.1	150	-33	230	10	>1500	HVLP
68	68	10.9	150	-30	240	10	>1500	HVLP
100	100	14.5	150	-27	250	10	>1500	HVLP

TELEX W @

Multigrade oil designed to work as a hydraulic fluid in public works machinery. Also works in some transmissions installed in such equipment.

SAE GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]	Quality level DIN 51524
	cSt (40 °C)	cSt (100 °C)	Viscosity Index			
10W20	43	6.8	115	-24	230	HLP (except demulsification)

HIDRÁULICO C-3 EP @

Oil for hydraulic transmissions in trucks, buses and public works and mining machinery, which are subject to very harsh conditions. May also be used in conventional hydraulic circuits.

ISO GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]	Quality level
	cSt (40 °C)	cSt (100 °C)	Viscosity Index			
32	32	5.5	108	-30	218	GM ALLISON C-3 (except demulsification)
46	46	7.0	109	-30	230	GM ALLISON C-3 (except demulsification)

32

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Technical data: Hydraulic oils



Introduction

Ranges and Sectors

Range: Main characteristics

BIO TELEX

A fully synthetic biodegradable hydraulic fluid, designed to replace conventional oils where there is a need or interest in using a biodegradable fluid. Product with Ecolabel Certification.

ISO GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]	FZG Min. scuffing load stage	Quality level DIN 51524
	cSt [40 °C]	cSt [100 °C]	Viscosity Index				
46	46	9.5	187	-45	320	12	HVLP
68	68	12.4	182	-39	318	12	HVLP

46

68

REPSOL



TELEX HFC @

A fire-resistant hydraulic fluid [HFC] based on a mixture of water and glycol. It is designed for use in hydraulic systems which, due to their characteristics or their location, are at risk of going on fire and where the fluid does not exceed 60 °C.

46

ISO GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]	pH at 20 °C	% water	Quality level
	cSt [40 °C]	cSt [100 °C]	Viscosity Index					
46	46	-	-	-48	-	9.54	40 %	ISO 6743/4 HFC

TELEX VULCANO @

A fire-resistant hydraulic fluid [HFDU] based on synthetic esters, designed for use in hydraulic systems which, due to their characteristics or their location, are at risk of going on fire and where the fluid does not exceed 90 °C.

68

ISO GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]	4 ball wear scar diam. at 40kg [mm]	Quality level
	cSt [40 °C]	cSt [100 °C]	Viscosity Index				
68	68	12.6	185	-18	310	0.5	ISO 6743/4 HFDU

Technical data: Industrial gear boxes



Introduction

Ranges and Sectors

Range: Main characteristics

SUPER TAURO

Lubricant for industrial gear assemblies with high load requirements.

ISO GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]	FZG Min. scuffing load stage	Quality level DIN 51517/ ISO 6743/6
	cSt (40 °C)	cSt (100 °C)	Viscosity Index				
68	68	8.8	98	-9	190	12	CLP/CKD
100	100	11.3	99	-9	195	12	CLP/CKD
150	150	14.6	96	-9	200	12	CLP/CKD
220	220	19.0	95	-9	205	12	CLP/CKD
320	320	24.0	95	-9	210	12	CLP/CKD
460	460	29.7	95	-9	215	12	CLP/CKD
680	680	40.0	95	-9	215	12	CLP/CKD
1000	1000	50.0	100	-6	230	12	CLP/CKD

68

100

150

220

320

460

680

1000

Technical data: Industrial gear boxes



Introduction

Ranges and Sectors

Range: Main characteristics

SUPER TAURO SINTÉTICO @

A synthetic base (PAO and ester) lubricant for gears working under very harsh conditions and high temperatures. Their excellent resistance to rust makes it possible to extend change-over periods. Exceeds Flender requirements.

ISO GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]	FZG Min. scuffing load stage	Quality level DIN 51517/ ISO 6743/6
	cSt [40 °C]	cSt [100 °C]	Viscosity Index				
100	100	14.5	150	-54	205	12	CLP/CKS
150	150	21.0	153	-51	205	12	CLP/CKS
220	220	26.7	156	-42	205	12	CLP/CKS
320	320	35.5	158	-42	210	12	CLP/CKS
460	460	46	160	-39	215	12	CLP/CKS

100

150

220

320

460

Technical data: Industrial gear boxes



Introduction

Ranges and Sectors

Range: Main characteristics

SUPER TAURO PAG @

A high performance synthetic lubricant, for systems where maximum levels of resistance to rust and load capacity are required. Exceeds Flender requirements.

ISO GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]	FZG Min. scuffing load stage	Quality level DIN 51517/ ISO 6743/6
	cSt (40 °C)	cSt (100 °C)	Viscosity Index				
150	150	25.3	202	-39	260	12	CLP/CKS
220	220	32.5	193	-33	294	12	CLP/CKS
320	320	43.9	196	-36	296	12	CLP/CKS
460	460	67.6	225	-36	286	12	CLP/CKS
680	680	122.0	272	-30	287	12	CLP/CKS
1000	1000	165.0	284	-27	296	12	CLP/CKS

150

220

320

460

680

1000

Technical data: Industrial gear boxes



Introduction

Ranges and Sectors

Range: Main characteristics

SUPER TAURO FND @

A lubricant for all types of industrial gears, and is suitable for all cases where maximum levels of resistance to rust and load capacity are required. Exceeds Flender requirements.

ISO GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]	FZG Min. scuffing load stage	Quality level DIN 51517/ ISO 6743/6
	cSt (40 °C)	cSt (100 °C)	Viscosity Index				
220	220	18.7	95	-9	205	12	CLP/CKD
320	320	24.0	95	-9	210	12	CLP/CKD

220

320

REPSOL



Technical data: Turbines and compressors



Introduction

Ranges and Sectors

Range: Main characteristics

ARIES @

Multifunctional lubricant, in the lower viscosities, for applications such as highly revved mechanisms, hydraulic or steam turbines in grades ISO32 and S0100 and for lubricating diverse mechanisms in the crankcase or by circulation in higher viscosities.

ISO GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]	Time for Neutralization No. 2 [h]	Quality level
	cSt [40 °C]	cSt [100 °C]	Viscosity Index				
7	6.4	2.1	95	-9	128	-	-
15	13.8	3.2	95	-9	170	>2000	DIN 51524 HL
22	24.2	4.5	95	-9	180	>2000	DIN 51524 HL
32	32	5.3	95	-9	190	>2000	DIN 51515 L-TD
46	46	6.7	95	-9	200	>2000	DIN 51515 L-TD
68	68	8.5	95	-9	215	>2000	DIN 51515 L-TD
100	100	11.0	95	-9	230	>2000	DIN 51515 L-TD
125	123	12.7	95	-9	235	>2000	DIN 51506 VCL
150	150	14.6	95	-9	235	>2000	DIN 51506 VCL
220	220	30.5	95	-9	240	>2000	DIN 51506 VCL

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125

150

220



TURBO ARIES @

Lubricant for steam turbines requiring a long service life and high resistance to rust and corrosion.

ISO GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]	Time for Neutralization No. 2 [h]	Quality level
	cSt (40 °C)	cSt (100 °C)	Viscosity Index				
32	32	5.3	95	-9	190	>3000	DIN 51515 L-TD
46	46	6.7	95	-9	200	>3000	DIN 51515 L-TD
68	68	8.5	95	-9	215	>2500	DIN 51515 L-TD

32

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TURBO ARIES EP @

Lubricant for turbines complying with military specification MIL 17331 H.

ISO GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]	Time for Neutralization No. 2 [h]	Quality level
	cSt (40 °C)	cSt (100 °C)	Viscosity Index				
-	80	9.5	95	-9	220	>1000	DIN 51515 L-TD

ARIES TURBO GAS @

Lubricant for turbines and compressors equipped with gearboxes (extreme pressure properties), providing excellent properties against oxidation, rust and extends useful service life.

ISO GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]	Time for Neutralization No. 2 (h)	Quality level DIN 51517/ ISO 6743/6
	cSt (40 °C)	cSt (100 °C)	Viscosity Index				
32	32	5.3	95	-15	190	>3000	DIN 51515L-TGP
46	46	6.7	95	-15	200	>3000	DIN 51515L-TGP

32

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ARIES TURBO GAS CC @

Lubricant produced with hydrotreated bases, specially designed for lubricating latest generation gas turbines and combined cycles (steam turbines, gas turbines, and turbocompressors), also for ammonia compressors.

ISO GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]	Time for Neutralization No. 2 (h)	Quality level DIN 51517/ ISO 6743/6
	cSt (40 °C)	cSt (100 °C)	Viscosity Index				
32	32	5.3	120	-15	220	>7000	DIN 51515L-TGP
46	46	6.7	120	-15	230	>7000	DIN 51515L-TGP

32

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Technical data: Turbines and compressors



Introduction

Ranges and Sectors

Range: Main characteristics

COMANDER EHC @

A hydraulic, fire-resistant fluid, designed for use in electro-hydraulic control systems in steam turbines, including systems using fine tolerance servo-valves.

ISO GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]	Autoignition Temperature [°C]	Aeroemulsion 50 °C min
	cSt (40 °C)	cSt (100 °C)	Viscosity Index				
46	43.4	5	-	-20	250	575	<2

46

REPSOL

Technical data: Turbines and compressors



Introduction

Ranges and Sectors

Range: Main characteristics

MERAK VDL @

Oil recommended for lubricating rotary and alternative compressors, either using air or inert gases, with high discharge temperatures.

ISO GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]	Oxidation with Fe ₂ O ₃		Quality level
	cSt [40 °C]	cSt [100 °C]	Viscosity Index			Autoignition Temperature [%]	Evaporation losses [%]	
32	32	5.3	100	-12	190	0.9	9.1	DIN 51506 VDL
46	46	6.7	98	-12	210	1.2	5.0	DIN 51506 VDL
68	68	8.5	97	-12	210	2.7	4.5	DIN 51506 VDL
100	100	11	96	-12	225	3.0	3.0	DIN 51506 VDL

32

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68

100



Technical data: Turbines and compressors



Introduction

Ranges and Sectors

Range: Main characteristics

SINTÉTICO THOR @

Ester-based synthetic lubricant recommended for lubricating alternative compressors and rotary compressors operating under severe working conditions, and which require maximum durability of service life of the oil.

ISO GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]	Autoignition Temperature [°C]	4 ball weld load [kg]	Quality level
	cSt [40 °C]	cSt [100 °C]	Viscosity Index					
68	68	10.4	142	-45	262	-	-	DIN 51506 VDL
100	100	10.2	85	-33	274	425	130	DIN 51506 VDL

68

100

REPSOL

ICE OIL

Naphthenic oils for coldstore machine compressors, using freon, ammonia or carbon dioxide.

32

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ISO GRADE	Viscosities			Pour Point [°C]
	cSt (40 °C)	cSt (0 °C)	cSt (-15 °C)	
32	32	510	2750	-45
46	46	900	5700	-43
68	68	1700	12000	-33

ICE OIL S

A synthetic POE base oil for compressors, for use in applications such as refrigeration, air conditioning or industrial refrigeration, where compressors use HFC cooling gases.

32

68

ISO GRADE	Viscosities			Pour Point [°C]
	cSt (40 °C)	cSt (0 °C)	cSt (-15 °C)	
32	32	-	-	-46
68	66	-	-	-39

ZEUS GUÍA @

Oil formulated for lubricating horizontal and vertical slideways on machine tools.
ISO grades 32 and 68 are also used as hydraulic fluids in systems where, apart from the hydraulic circuit, it is necessary to lubricate the slideways.

ISO GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]	4 ball weld load [kg] min.
	cSt [40 °C]	cSt [100 °C]	Viscosity Index			
32	32	5.6	114	-9	180	200
68	68	9.0	106	-9	190	200
150	150	15.2	101	-9	200	250
220	220	19.2	98	-9	210	250

32

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150

220

MULTIGRADO TÉRMICO @

A fluid formulated for use as a heat transfer agent. It is formulated with a specific additivation to give high resistance to rust. For use in closed circuits, with maximum working temperatures at 300 °C.

	Viscosities					
ISO GRADE	cSt (40 °C)	cSt (100 °C)	Viscosity Index	Pour Point [°C]	Flash Point [°C]	Initial Point of distillation [°C]
-	37	5.8	96	-15	200	360

MULTIGRADO TÉRMICO SINTÉTICO @

A synthetic fluid formulated for use as a heat transfer oil. Its specific additivation gives it high resistance to rust. For use in closed circuits, with maximum working temperatures at 315 °C.

	Viscosities					
ISO GRADE	cSt (40 °C)	cSt (100 °C)	Viscosity Index	Pour Point [°C]	Flash Point [°C]	Initial Point of distillation [°C]
-	16	3.5	-	-	190	350

HELIOTERMO 2550 UF @

Heat transfer fluid providing high resistance to rust. For use in electric radiators.

	Viscosities					
ISO GRADE	cSt (40 °C)	cSt (100 °C)	Viscosity Index	Pour Point [°C]	Flash Point [°C]	Ramsbottom Carbon
-	27	5.1	-	-14	190	0.1 % max.

Technical data: General purpose oils



Introduction

Ranges and Sectors

Range: Main characteristics

MULTIUSO EXTRA @

Fluid for general lubrication suitable for applications requiring "total loss lubrication".
Particularly suitable for lubricating chainsaws.

SAE 30

SAE 40

GRADO SAE	Viscosities			Pour Point [°C]	Flash Point [°C]
	cSt (40 °C)	cSt (100 °C)	Viscosity Index		
30	100	11	95	-15	210
40	150	14.5	95	-10	220

V @

Fluid for general lubrication with excellent lubricity and stability on aging, for applications requiring "total loss lubrication" or low demand applications.

46

68

ISO GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]
	cSt (40 °C)	cSt (100 °C)	Viscosity Index		
46	46	6.7	95	-21	200
68	68	8.5	95	-21	210

BIO MULTIUSO EXTRA @

Biodegradable fluid formulated with plant-based esters for use as a general lubricant and for applications requiring "total loss lubrication".

Viscosities			Pour Point [°C]	Flash Point [°C]
cSt (40 °C)	cSt (100 °C)	Viscosity Index		
68	15.3	242	-27	300

Technical data: Circulation



Introduction

Ranges and Sectors

Range: Main characteristics

CIRCULACIÓN @

Fluid for lubricating bearings subject to harsh services normally used in rolling mills, and for industrial gear boxes.

ISO GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]	Time for Neutralization No. 2 [h]	ISO 6743/2
	cSt [40 °C]	cSt [100 °C]	Viscosity Index				
220	220	18.0	95	-9	240	>1.000	FC
320	320	24.0	95	-9	240	>1.000	FC
-	390	27.5	95	-9	240	>1.000	FC
460	460	30.0	95	-9	260	>1.000	FC
680	680	39.0	95	-9	260	>1.000	FC

220

320

390

460

680



Technical data: Circulation



Introduction

Ranges and Sectors

Range: Main characteristics

CIRCULACIÓN EP

Fluid for lubricating bearings subject to very harsh services normally used in rolling mills, and for industrial gears subject to medium loads.

ISO GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]	FZG Min. scuffing load stage	Time for Neutralization No. 2 [h]	ISO 6743/2
	cSt [40 °C]	cSt [100 °C]	Viscosity Index					
100	90	10.3	95	-9	224	12	>1.000	FD
220	220	18.0	95	-9	228	12	>1.000	FD
320	320	24.0	95	-9	234	12	>1.000	FD
460	460	30.0	95	-9	265	12	>1.000	FD

100

220

320

460

ASTRA @

Fluid for lubricating drills, hammers and pneumatic tools under harsh working conditions.
Also for pneumatic mechanisms requiring a fluid with capacity to capture water drops so as to avoid contact with metal surfaces [demulsification test values 0-0-80 at 30 min.].

ISO GRADE	Viscosities			Pour Point [°C]	Flash Point [°C]	4 ball wear scar diam. at 40 kg (mm)	Emulsion 30 min
	cSt [40 °C]	cSt [100 °C]	Viscosity Index				
46	46	6.8	100	-21	200	0.42	0-0-80
100	100	11.3	97	-15	220	0.36	0-0-80
150	150	14.7	97	-15	230	0.36	0-0-80

46

100

150

ELECTRA 3 / ELECTRA 3X @

Paraffinic oil used in all kinds of electrical devices that require a fluid which acts as a dielectric or cooling agent.

PRODUCT	Viscosities		Pour Point [°C]	Flash Point [°C]	Dielectric strength [kV]	Dielectric loss factor at 90 °C
	cSt [40 °C]	cSt [-30 °C]				
ELECTRA 3 Type I according to ASTM D3487	10.5	807	-42	170	70	0.00066
ELECTRA 3X Type II according to ASTM D3487	10.5	807	-42	170	70	0.00066

TENSIÓN CENTAURO / TENSIÓN CENTAURO X @

Naphthenic oil used in all kinds of electrical devices that require a fluid which acts as a dielectric or cooling agent.

PRODUCT	Viscosities		Pour Point [°C]	Flash Point [°C]	Dielectric strength [kV]	Dielectric loss factor at 90 °C
	cSt [-30 °C]	cSt [-30 °C]				
T. CENTAURO Type I according to ASTM D3487	9.6	950	-51	150	70	0.00048
T. CENTAURO X Type II according to ASTM D3487	12	950	-51	150	70	0.00066

BIOELECTRA @

Oil based on natural esters, suitable for use as an insulating fluid in transformers and switches, particularly in cases where a fluid with a high biodegradable flash Point is required.

PRODUCT	Viscosities		Pour Point [°C]	Flash Point [°C]	Dielectric strength [kV]	Loss Factor at 90 °C
	cSt [40 °C]	cSt [0 °C]				
BIOELECTRA	39	275	-20	330	65	0.03

REPSOL

Technical data: Steam machines



Introduction

Ranges and Sectors

Range: Main characteristics

HELEN @

Oils designed for lubricating steam machine cylinders. Valid for general greasing, gears and other mechanical elements where high temperature conditions may occur. Can also be used as heat transfer fluids in the case of thermal circuits open to the air.

ISO GRADE	Viscosities			Flash Point [°C]
	cSt (100 °C)	Viscosity Index	Pour Point [°C]	
460	30.5	95	-9	240
680	40.0	95	-9	240
1000	50.5	95	-9	240

140

200

240



EMPATEM CC-30 H

A paraffinic mineral oil with special additives, suitable for the lubrication of the extraction from the mould of the molten steel required in continuous steel casting work.

Viscosities				
cSt (40 °C)	cSt (100 °C)	Viscosity Index	Noak volatility 1hr at 150 °C [%]	Ramsbottom carbon [%]
110	12	95	0.5	0.1

EMPATEM CC-30 G/GS

Lubricating oils with special additives, suitable for lubrication of the extraction from the mould of the molten steel required in continuous steel casting work. Very low tendency to form carbon residues and volatile losses.

PRODUCT	Viscosities			Noak volatility 1hr at 150 °C [%]	Ramsbottom carbon [%]
	cSt (40 °C)	cSt (100 °C)	Viscosity Index		
EMPATEM CC- 30G	54	8.6	135	5	0.07
EMPATEMCC- 30GS (hydrogenated oil)	32	6	135	2	0.02

IBERCUT 12 AM

A pure paraffinic oil, formulated with special additives to facilitate steel grinding, and minimize the appearance of "oil mist".

Viscosities				
cSt (40 °C)	cSt (100 °C)	Viscosity Index	Pour Point [°C]	Flash Point [°C]
11	2.8	110	-22	175

IBERCUT 20C

A pure paraffinic oil formulated with special additives for general machining of steels and alloys.

Viscosities				
cSt (40 °C)	cSt (100 °C)	Viscosity Index	Pour Point [°C]	Flash Point [°C]
27	4.9	100	-14	190

IBERCUT 30A

A pure paraffinic oil formulated with special additives for machining hard steels, and is suitable for medium or high difficulty operations (tapping, threading, broaching, milling, etc).

Viscosities				
cSt (40 °C)	cSt (100 °C)	Viscosity Index	Pour Point [°C]	Flash Point [°C]
27	4.9	100	-14	190

Technical data: Metal cutting and polishing



Introduction

Ranges and Sectors

Range: Main characteristics

IBERCUT EDM 2 @

A highly refined light oil, specially formulated for cooling and lubricating during spark erosion work or during steel honing.

Viscosities				
cSt (40 °C)	cSt (100 °C)	Viscosity Index	Pour Point [°C]	Flash Point [°C]
3,3	1.2	-	-30	115

METAL 200 @

A highly refined light fluid, specially formulated for use in polishing ferritic and austenitic stainless steel that have a low carbon content.

Viscosities				
cSt (40 °C)	cSt (100 °C)	Viscosity Index	Pour Point [°C]	Flash Point [°C]
12	3.0	100	-9	175



Technical data: Rolling and deformation processes



Introduction

Ranges and Sectors

Range: Main characteristics

LAMINOX 1197/G 50/G 3000

Oils for cold-rolling ferritic and austenitic stainless steel that have a low carbon content. The combination of bases and additives are suitable for use in extreme rolling conditions.

PRODUCT	Viscosities			Pour Point [°C]	Flash Point [°C]
	cSt (40 °C)	cSt (100 °C)	Viscosity Index		
LAMINOX 1197	10	2.6	90	-30	175
LAMINOX G 3000	7.8	2.3	105	-30	165
LAMINOS G 50	4.9	1.7	-	-36	140

TREFI 20

Oil designed for applications including deformation, cold-drawing and wire-drawing of ferrous and non-ferrous materials. It can also be used in drawing, forming and stamping processes.

Viscosities				
cSt (40 °C)	cSt (100 °C)	Viscosity Index	Pour Point [°C]	Flash Point [°C]
60	6.5	70	-15	190 min



ANTIX F

Oil providing rust preventive against corrosion in the machining stages of delicate parts or parts that are subject to long periods in storage. It can be applied by dipping, brushing or spraying.

Viscosities				
cSt (40 °C)	cSt (100 °C)	Viscosity Index	Pour Point [°C]	Flash Point [°C]
11	3	95	-15	160

IBERTEM 15

Low viscosity paraffinic oil for use in quenching processes with normal steel quenching rates, where the bath temperature ranges from 40 °C to 80 °C.

Viscosities			
cSt (40 °C)	cSt (100 °C)	Viscosity Index	Flash Point [°C]
24	4.5	100	100

IBERTEM 15-R

Low viscosity paraffinic oil for quench hardening steel, when a high quench rate is required.

Viscosities			
cSt (40 °C)	cSt (100 °C)	Viscosity Index	Flash Point [°C]
24	4.5	100	200

IBERTEM 24

Low viscosity paraffinic oil for fast quenching steel, where the bath temperature ranges from 40 °C and 80 °C.

Viscosities			
cSt (40 °C)	cSt (100 °C)	Viscosity Index	Flash Point [°C]
32	5.4	95	200

IBERTEM 34

Medium viscosity paraffinic oil for fast quenching steel, where the bath temperature ranges from 85 °C and 125 °C.

Viscosities				
cSt (40 °C)	cSt (100 °C)	Viscosity Index	Flash Point (°C)	
65	8.3	95	210	

IBERTEM 99-F

High viscosity paraffinic oil for fast quenching steel, where the bath temperature ranges from 150 °C and 180 °C.

Viscosities				
cSt (40 °C)	cSt (100 °C)	Viscosity Index	Flash Point (°C)	
215	18.5	95	250	

DESMOLDOIL 90/DESMOLDOIL L/DESMOLDOIL P

Mould release oils formulated to act as release agents on any surface such as metal, iron, etc.

PRODUCT	Viscosities			Pour Point [°C]	Flash Point [°C]	Additives
	cSt (40 °C)	cSt (100 °C)	Viscosity Index			
DESMOLDOIL 90	11	3.3	90	-9	160	no
DESMOLDOIL L	24	4.3	90	-12	170	no
DESMOLDOIL P	24	4.3	90	-12	190	yes

DESMOLDOIL A

Mould release oil suitably formulated with water-based additives, designed for mould release on pieces of concrete on surfaces such as wood, iron, etc.

Viscosities		Pour Point [°C]	Flash Point [°C]
cSt (40 °C)	cSt (100 °C)		
22	5.5	-9	210

DESMOLDOIL R

Mould release oil formulated with a blend of highly refined mineral bases and high quality regenerated bases, which prevents adhesion of concrete to formwork moulds.

cSt (40 °C)	Viscosities		Pour Point [°C]	Flash Point [°C]
	cSt (100 °C)	Viscosity Index		
24	4.8	90	-9	215

Ranges: Hydraulic oils



Introduction

Ranges and Sectors

Range: Main characteristics

Repsol **HYDRAULIC OILS** are formulated with carefully selected and refined bases. As a result, they provide the robustness and reliability to all parts of your machines and equipment, even under extreme operating conditions.

Their excellent **anti-wear** characteristics, along with **anti-aging, corrosion protection and good water separation** properties, put them at the forefront of current technology for lubricating oils.

In addition, Repsol has a wide range of hydraulic oils so you can choose the best suited to your particular industry, including conventional oils formulated with zinc-based additives, to the latest generation "ashless" oils as well as specific applications requiring a fire-resistant fluid.

And all with Repsol's **commitment to sustainability** and the **environment** by using regenerated bases and biodegradable fluids.



Ranges: Hydraulic oils



Introduction

Ranges and Sectors

Range: Main characteristics

OILS WITH ASH	ISO 6743/4	DIN 51524	OTHER DATA	ISO GRADES	APPLICATIONS
REPSOL ARIES	HL	HL	-----	7, ... , 220	Hydraulic systems in general, regardless of the type of pump, operating under high pressure and temperature conditions.
REPSOL LIBRA HIDRÁULICO HLP	HM	HLP	-----	32, 46, 68	Suitable for most hydraulic systems including those that require special anti-wear protection, both in industry and in the automotive industry.
REPSOL HYDROFLUX EP	HM	HLP	AFNOR NF E 48603 HL, HM AFNOR NF E 48690/48691	32, ..., 150	Hydraulic systems sensitive to deposit formation. Movements under harsh load and wear conditions (bearings, precision engineering, etc.).
REPSOL TELEX E	HM	HLP	MAG IAS P-68, P-69, P-80 PARKER DENISON HF-0, H-1, HF-1 EATON 35VQ25 AFNOR NF E 48603 HL, HM AFNOR NF E 48690/48691	5, ..., 100	Harsher conditions of use, low tendency to form varnish that may block servo valves.
REPSOL TELEX HVLP	HV	HVLP	MAG IAS P-68, P-69, P-80 EATON 35VQ25 AFNOR NF E 48603 HV AFNOR NF E 48690/48691	15, ..., 68	Low tendency to form varnish, wide range of operating temperatures [-30 °C to 80 °C] with slight variation in viscosity [high IV].

Ranges: Hydraulic oils



Introduction

Ranges and Sectors

Range: Main characteristics

OILS WITHOUT ASH	ISO 6743/4	DIN 51524	OTHER DATA	ISO GRADES	APPLICATIONS
REPSOL HIDRAÚLICO SC	HM	HLP	PARKER DENISON HF-0, H-1, HF-1 MAG IAS P-68, P-69, P-80 AFNOR NF E 48603 HM	32, 46, 68	Extreme cleaning systems. Very low tendency to form deposits and varnish. Especially recommended for circuits with very high pressure servo valves and other servomechanisms (robotics).
REPSOL HIDRÓLEO	HV	HVLP	AFNOR NF E 48603 HV MAG IAS P-68, P-69, P-80	32, ..., 100	Same as above and, in addition, slight variation in viscosity (high IV).

BIODEGRADABLE OILS	ISO 6743/4	DIN 51524	OTHER DATA	ISO GRADES	APPLICATIONS
REPSOL BIO TELEX	HEES	HVLP (excl. resistance aging)	Biodegradable according to OECD 301-B ECOLABEL certificate	46, 68	Systems located in sensitive areas from an environmental viewpoint. Use in extreme temperature range [-40 °C to 100 °C] under severe load and wear conditions.



Ranges: Hydraulic oils



Introduction

Ranges and Sectors

Range: Main characteristics

INCREASED SAFETY	ISO 6743/4	ISO 12922	OTHER DATA	ISO GRADES	FIRE RESISTANCE
REPSOL TELEX HFC	HFC	HFC	7th LUXEMBOURG PROTOCOL	46	Fluid based on a mixture of water and glycol. Range of operating temperatures from -20 °C to 60 °C. Compliance with functions of a hydraulic fluid.
REPSOL TELEX VULCANO	HFDU	HFDU	7th LUXEMBOURG PROTOCOL	68	Polyol ester-based fluid. Operating temperatures range from -15 °C to 90 °C. Compliance with functions of a hydraulic fluid.

REPSOL



Ranges: Other hydraulic oils



Introduction

Ranges and Sectors

Range: Main characteristics

PRODUCT	APPLICATIONS	ISO GRADES	DIN 515124	OTHER DATA
REPSOL TELEX W	Fluid for PW machinery and transmissions (multigrade).	GRADO SAE 10W20	HLP (excl. Demulsification)	ALLISON C-4 CATERPILLAR TO-2
REPSOL HIDRÁULICO C-3 EP	Fluid for hydraulic transmission for trucks, buses and public works machinery and mining.	32.46	-	ALLISON C-3

REPSOL



Repsol has designed a complete range of Lubricants to handle the technical challenges of a wide range of **INDUSTRIAL GEARBOX APPLICATIONS**.

Repsol Super Tauro mineral oil, with its excellent **antioxidant, anti-corrosion, demulsifying and anti-foaming properties**, together with its high load capacity, provides superior results in industrial and marine gears subject to harsh operating conditions.

Repsol synthetic Lubricants, which make it possible to extend oil change-over periods, leading to savings on maintenance costs, are recommended for systems whose operating conditions reach extreme temperatures.

The range is completed with an oil specially designed for systems that experience a phenomenon known as "**micropitting**", which appears in gears that are subjected to high cycle loading and frequent start-ups and stops.



Ranges: Gear oils



Introduction

Ranges and Sectors

Range: Main characteristics

OILS FOR GEAR BOXES	ISO 6743/6	DIN 51517	ISO GRADES	OTHER DATA	APPLICATIONS
REPSOL SUPER TAURO	CKD	CLP	68, ..., 1000	AGMA AIST 224	Oil with excellent response to high load requirements and harsh operating environments: iron & steel industry, mills.
REPSOL SUPER TAURO FND	CKD	CLP	220, 320	AGMA FLENDER	Special applications: wind turbines, gear units for cement furnaces, paper mills.
REPSOL SUPER TAURO SINTÉTICO	CKT	CLP	100, ..., 460	AGMA AIST 224 FLENDER	Synthetic PAO-based oil, especially suitable for systems operating at very high temperature requiring extended change-over periods.
REPSOL SUPER TAURO PAG	CKT	CLP	150, ...,1000	AGMA AIST 224 FLENDER	Synthetic PAG-based oil suitable for operation under very harsh conditions in equipment requiring EP Lubricants with high thermal stability.



Ranges: Oils for turbines



Introduction

Ranges and Sectors

Range: Main characteristics

The range of **REPSOL OILS FOR TURBINES** meet all lubrication needs for current equipment on the market, including turbines for hydro power plants to steam and gas turbines in combined-cycle plants, **ensuring a long service life of the oil.**

Our oils **comply with the vast majority of international quality standards**, as well as the most stringent standards set by equipment manufacturers such as Alstom, Siemens, Solar and General Electric.

Its **high resistance to rust**, along with its **demulsification, deaeration and defoaming** properties, provide excellent lubrication of the components in all types of turbines.

Even the most modern turbines, where the power, temperature and pressure have increased significantly in recent years, show outstanding performance when operating with our Lubricants.

The range is complemented with a specific oil for the control system in steam turbines, where high temperatures require the use of a specific synthetic fluid.



Ranges: Oils for turbines



Introduction

Ranges and Sectors

Range: Main characteristics

OIL TURBINES	ISO 6743/5	DIN 51515	ISO GRADES	ALSTOM	SIEMENS	SOLAR	GEK 46505 D	GEK 32568 F	GEK 101941 A	GEK 107395 A	GEK 49357 E	APPLICATIONS
REPSOL ARIES	TGA / TSA	L-TD	7, ..., 220	---	---	---	Compliant	---	---	---	---	Hydraulic turbines, other applications.
REPSOL TURBO ARIES	TGB / TSA	L-TD	32, 46, 68	Compliant	Compliant	---	Compliant	---	---	---	---	Steam Turbines.
REPSOL ARIES TURBO GAS	TGE / TSE	L-TDP	32, 46	---	Compliant	Compliant	Compliant	Compliant	Compliant	---	---	Turbines with coupled gearbox. Gas Turbines.
REPSOL ARIES TURBO GAS CC	TGE / TSE	L-TGP	32, 46	Compliant	Compliant	Compliant	Compliant	Compliant	Compliant	Compliant	---	Combined cycles turbines.
REPSOL COMANDER EHC	TCD / TCD	---	46	---	---	---	---	---	---	---	Compliant	Fire-retardant fluid.



At Repsol we understand that reliability and efficiency of **AIR COMPRESSION EQUIPMENT, EQUIPMENT THAT MAY BE CHARGED WITH PROCESS GAS, REFRIGERANT GAS** or **VACUUM PUMPS** are key to an industrial plant operating smoothly. Therefore, correctly selecting the lubrication system is an essential part of the maintenance systems.

To this end, we have designed a range of high quality Lubricants. Repsol lubricant oils are formulated with highly refined bases and the latest generation additives. Therefore, they meet all the needs required by the various types of compressors available on the market.

The Repsol range of Lubricants includes highly refined paraffinic oils for normal working conditions, as well as other long-life synthetic oils for compressors that operate under harsher conditions.

The range is complemented with **oils for refrigeration systems** with synthetic and naphthenic bases, which are miscible and compatible with the different refrigerant gases which are typical in such equipment.



Ranges: Compressor oils



Introduction

Ranges and Sectors

Range: Main characteristics

COMPRESSOR OILS	ISO 6743/3	DIN 51506	APPLICATIONS
REPSOL ARIES	DAB/DVA/DVC/DVE	VCL	For alternative air compressors under severe operating conditions, as well as for vacuum pumps.
REPSOL TURBO ARIES	DAA/DAG	VCL	Lubricating the same equipment as Repsol Aries, but with longer oil life.
REPSOL ARIES TURBO GAS CC	DAB/DAH	VDL	Lubricant suitable for turbochargers that operate at high temperatures and require a high performance lubricant. It has been optimized for lubricating ammonia compressors.
REPSOL MERAK VDL	DAA/DAG	VDL	Merak VDK is recommended for lubricating rotary cylinders and other alternative mechanisms in compressors, whether they are air or inert gas compressors, which have high discharge temperatures (up to 220 °C).
REPSOL SINTÉTICO THOR	DAB/DAJ/DGE/DVE	VDL	Oil recommended for lubricating alternative compressors operating under severe working conditions, for rotary screw and vane compressors where the fluid makes it possible to extend change-over periods. It can also be used in vacuum pumps and compressors for inert gas.



Ranges: Dielectric oils

Introduction

Ranges and Sectors

Range: Main characteristics

The performance, reliability and safety of **REPSOL DIELECTRIC OILS** make them the most widely used oils in many current applications for electrical transformers.

Both the **Repsol Electra** range and the **Repsol Centauro** have high oxidation stability, good dielectric strength and excellent properties at low temperature. They ensure the absence of impurities such as dissolved gases, water or solids in suspension.

Furthermore, **our products comply with international specifications** such as IEC 60296 and ASTM D3487. They have been validated and widely used by several power companies and manufacturers of transformers and electrical equipment.

The range is completed with **Repsol Bioelectra**, formulated with refined plant oils. Its chemical composition makes it highly biodegradable and it is highly flame retardant, being a highly recommended product in places where, in addition to having to meet stringent technical requirements, far greater safety conditions are required.



Ranges: Dielectric oils



Introduction

Ranges and Sectors

Range: Main characteristics

	OIL TYPE	LOSS FACTOR	DIELECTRIC STRENGTH	STANDARDS
REPSOL ELECTRA 3	PARAFFINIC	0.00066	70 kV	IEC 60296 [non-inhibited] ASTM D-3487, Type I
REPSOL TENSIÓN CENTAURO	NAPHTHENIC	0.00048	70 kV	IEC 60296 [non-inhibited] ASTM D-3487, Type I
REPSOL ELECTRA 3X	PARAFFINIC	0.00066	70 kV	IEC 60296 [inhibited] ASTM D-3487, Type II
REPSOL TENSIÓN CENTAURO X	NAPHTHENIC	0.00048	70 kV	IEC 60296 [inhibited] ASTM D-3487, Type II
REPSOL BIOELECTRA	VEGETABLE OIL	0.03	65 kV	IEC 62770

Ranges: Oils for metallurgy industry



Introduction

Ranges and Sectors

Range: Main characteristics

Repsol has designed several ranges of high quality oils for each **SECTOR OF THE METAL INDUSTRY**: Repsol Ibercut, Ibertem, Empattem and Laminox.

The high quality of their bases and the careful selection of additives make it an **excellent choice for optimizing** any metallurgical operation: from the initial extraction and subsequent purification of metals, to cutting, polishing, tempering and protection of parts against corrosion, to transformation processes such as continuous casting and rolling.

The different ranges meet the majority of current demands in the industry. Given the high demand of the processes and the wide range of processes available, in many cases the **Repsol team develops exclusive products for specific applications.**



Ranges: Oils for metallurgy industry



Introduction

Ranges and Sectors

Range: Main characteristics

SECTOR	NAME		VISCOSITY AT 40 °C	VISCOSITY AT 100 °C	DESCRIPTION
CONTINUOUS CASTING	REPSOL EMPATEM	CC-30 G	54	8.6	Oil particularly suitable for lubricating the extraction from the mould of cast steel prepared in the crucible.
		CC-30 GS	32	6	
		CC-30 H	110	12	
CUTTING	REPSOL IBERCUT	12 AM	11	2.8	Oil for the general machining of steel and alloys. Lubrication for metal shaving operations in machining processes. Compliant with ISO 6743/7 cat. ISO-L-MHE. EDM-2 compliant with ISO 6743/7 cat. ISO-L-MHA.
		20 C	27	4.9	
		30 A	27	4.9	
		EDM-2	3.3	1.2	
POLISHING	REPSOL METAL 200		12	3	Oil for polishing stainless steel.
ROLLING	REPSOL LAMINOX	1197	10	2.65	Oil for cold-rolling ferritic and austenitic stainless steel that have a low carbon content. Compliant with ISO 6743/7 cat. ISO-L-MHB
		G 3000	7.8	2.3	
		G 50	4.9	1.7	

Ranges: Oils for metallurgy industry

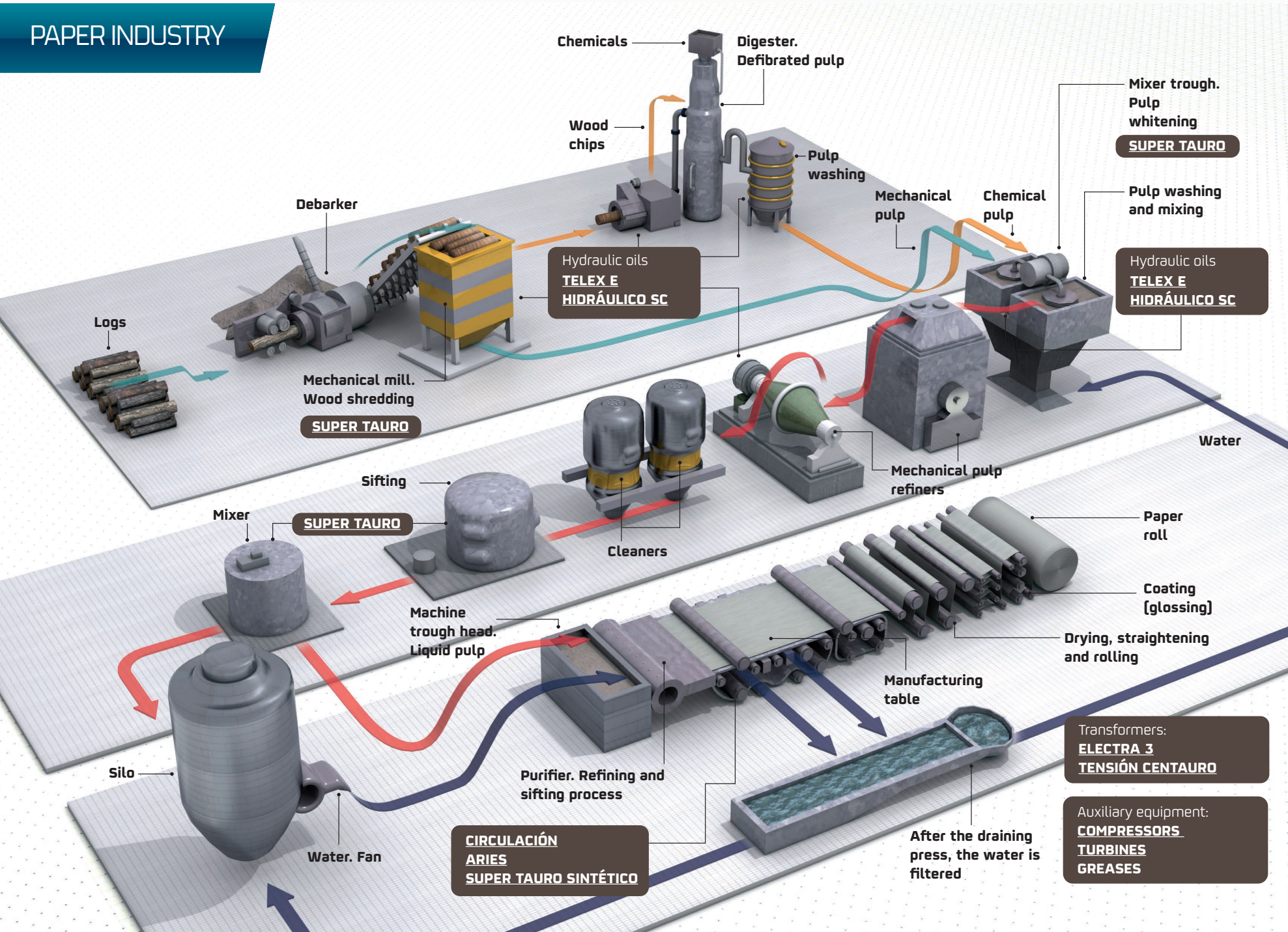


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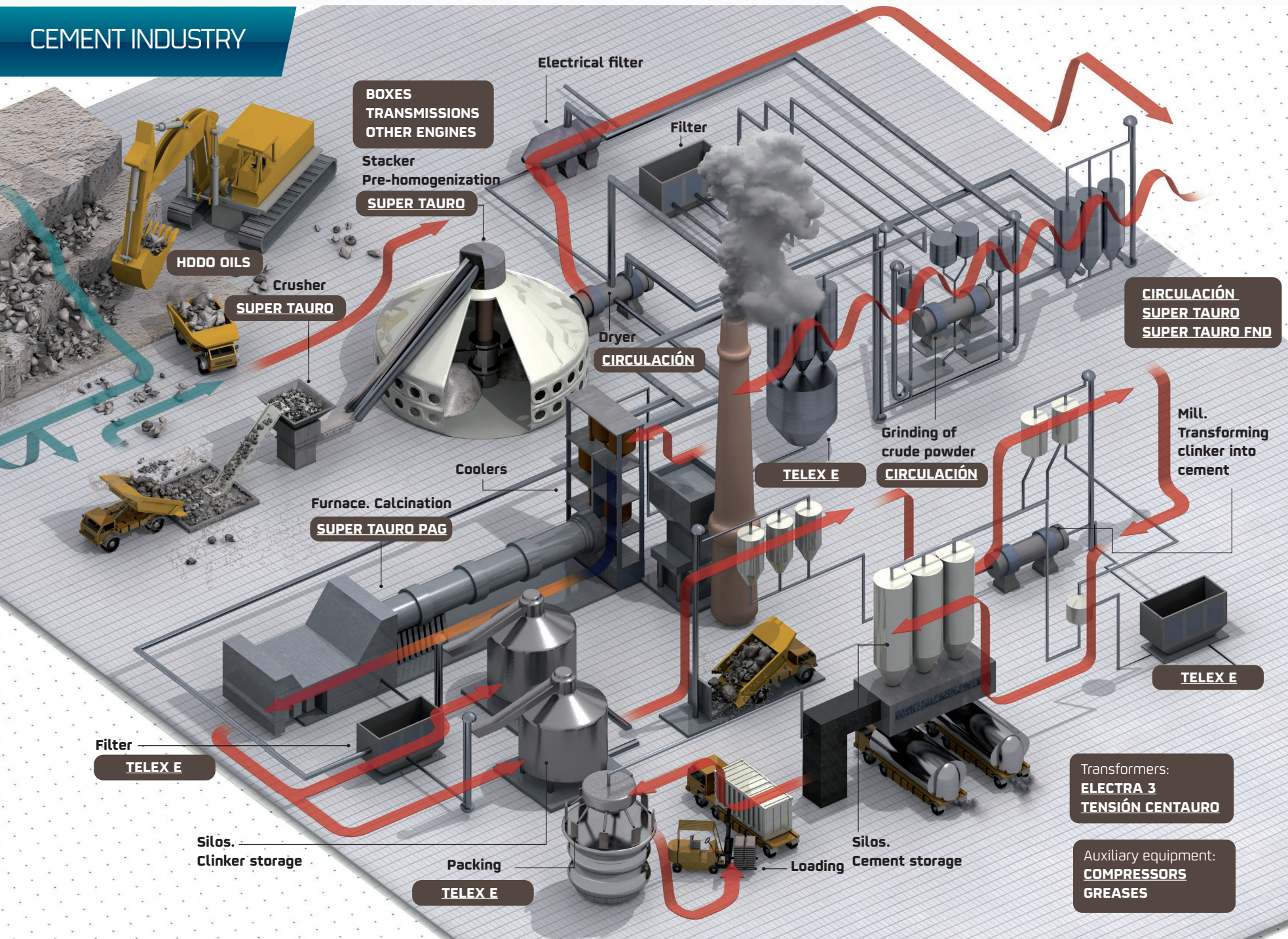
Ranges and Sectors

Range: Main characteristics

SECTOR	NAME		VISCOSITY AT 40°C	VISCOSITY AT 100 °C	DESCRIPTION
DEFORMATION PROCESSES	REPSOL TREFI 20		60	6.5	Oil designed for applications including deformation, cold-drawing, wire-drawing, drawing, forming or stamping.
PROTECTION	REPSOL ANTIX F		11	3	Oil providing protection against corrosion and water displacement. Compliant with ISO 6743/8 ISO-L-REE category.
QUENCHING	REPSOL IBERTEM	15	24	4.5	Oil for quench hardening steel, with suitable cooling rates based on the process for which it is intended.
		15-R	24	4.5	
		24	32	5.4	
		34	65	8.3	
		99-F	215	18.5	

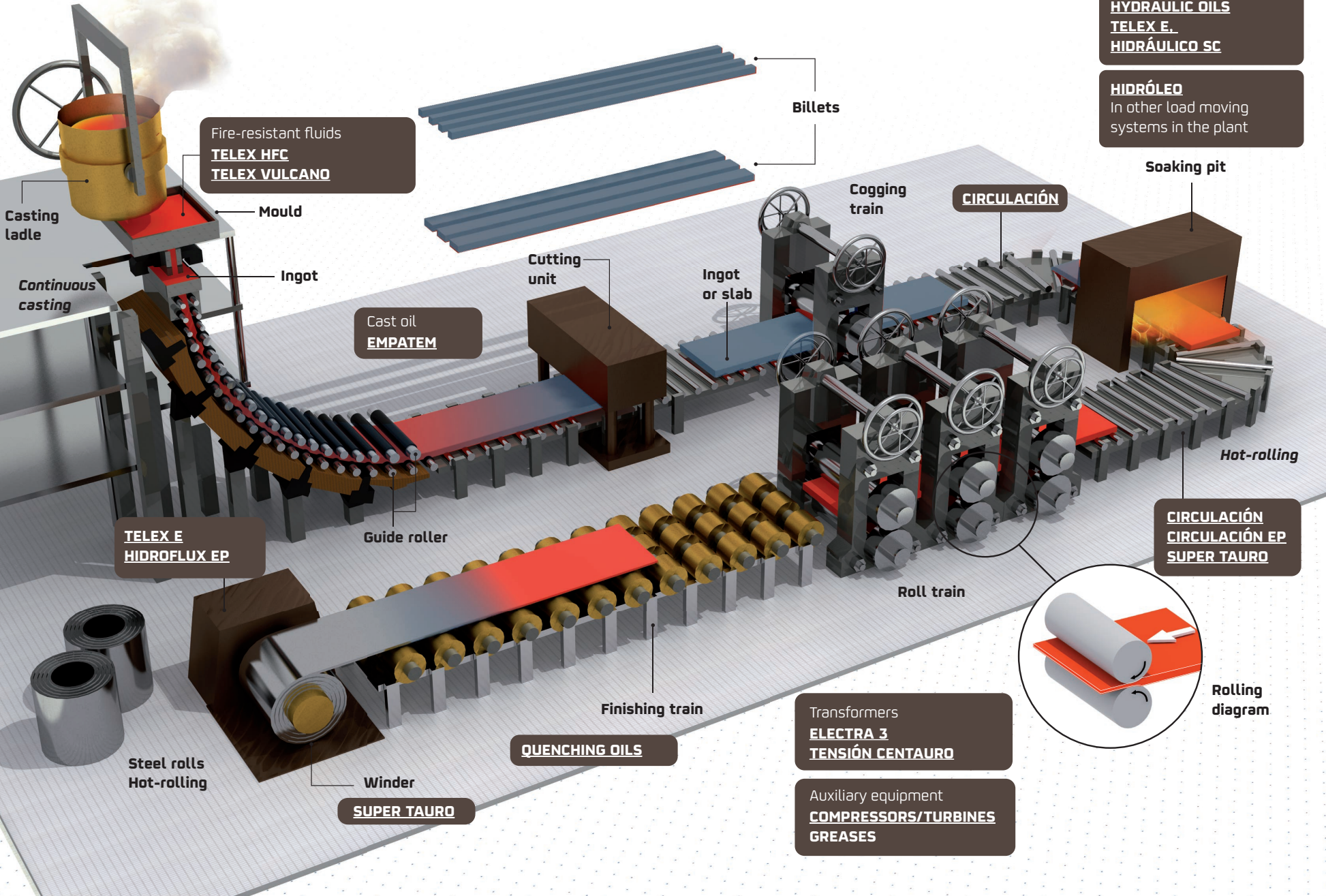


CEMENT INDUSTRY

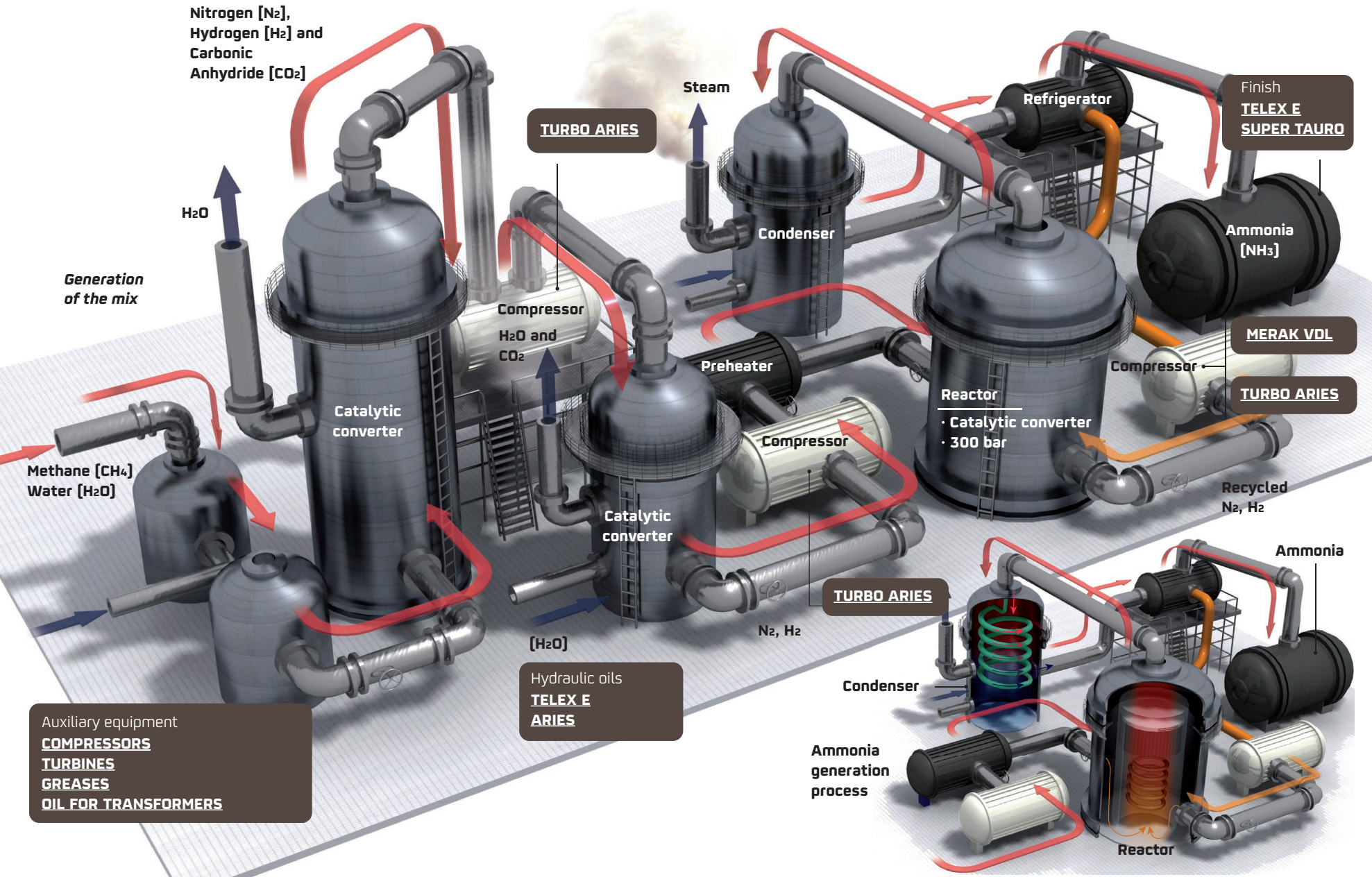


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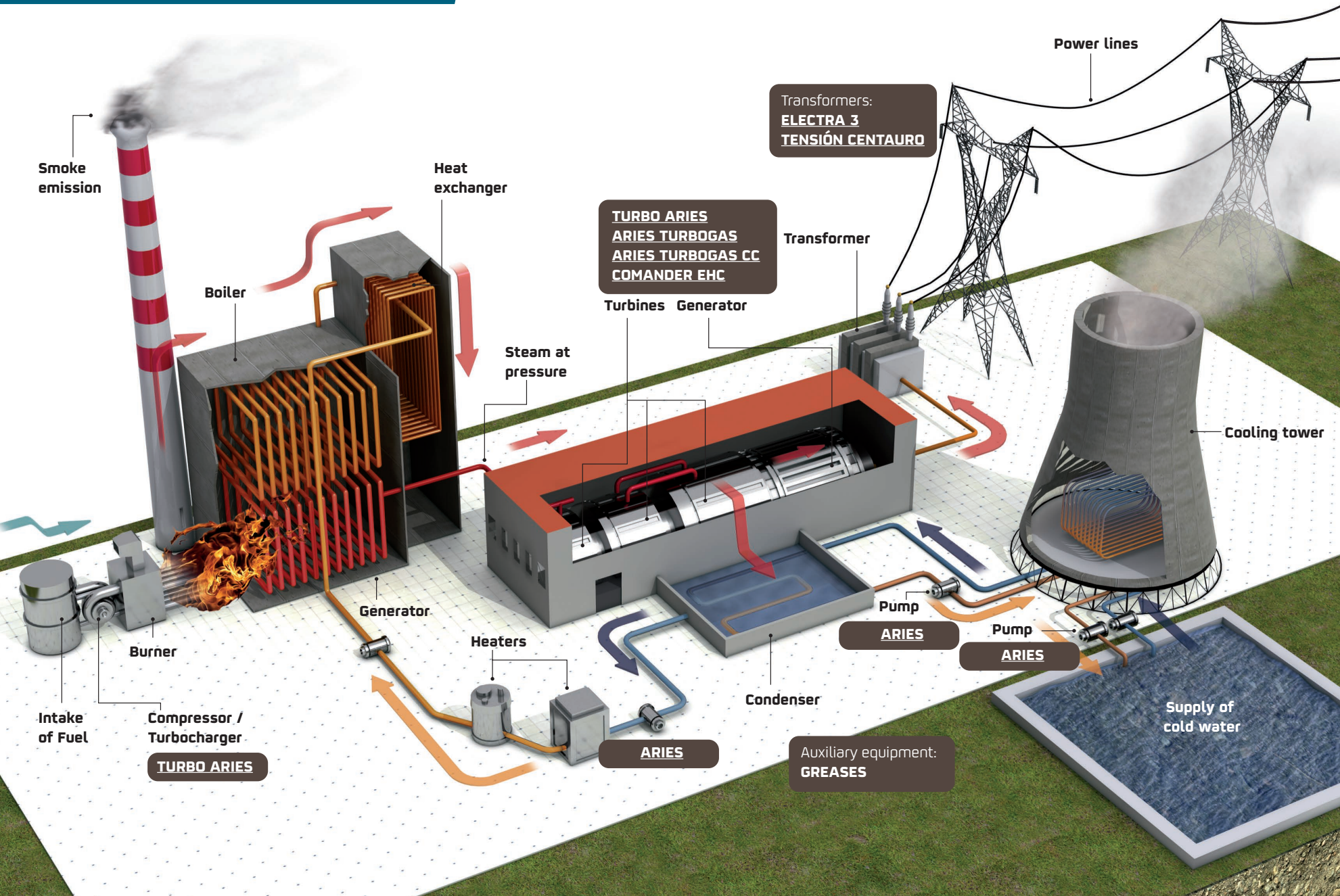
CONTINUOUS CASTING AND HOT-ROLLING INDUSTRY



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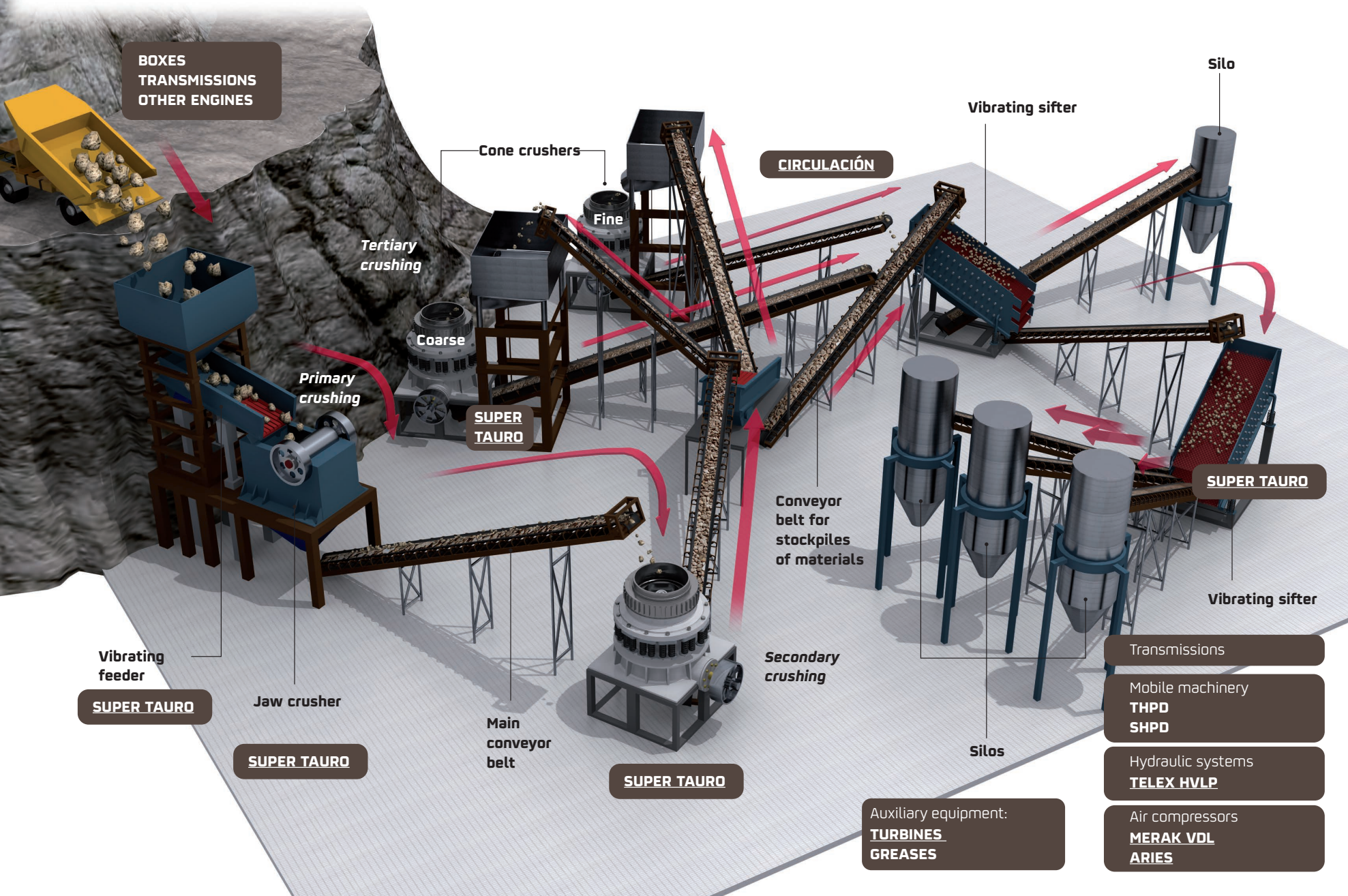


POWER GENERATION INDUSTRY



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MINING, QUARRYING AND AGGREGATES INDUSTRY



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