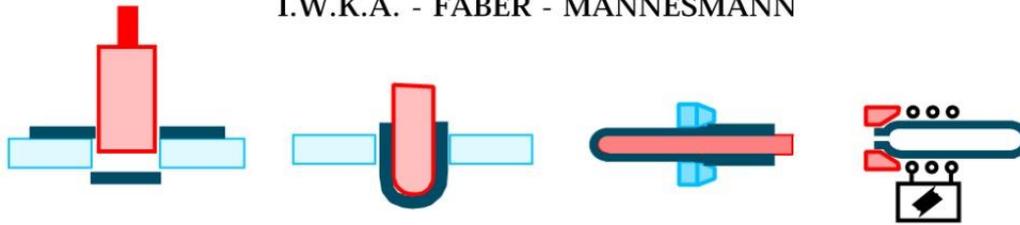


# **La fabrication des bouteilles de plongée**

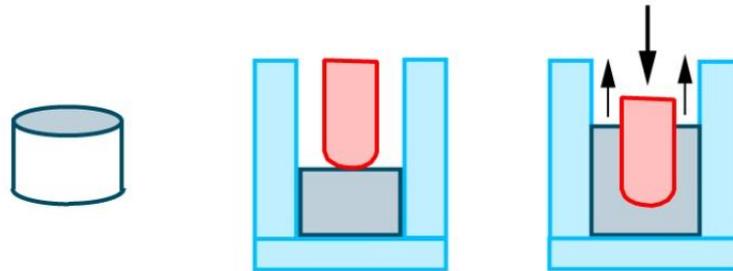
# MISE EN FORME DES BOUTEILLES

F1

I.W.K.A. - FABER - MANNESMANN



RIVE DE GIER - GERZAT.



ROTH



MATERIAUX UTILISES POUR LA  
FABRICATION DES BOUTEILLES

ACIERS

BOUTEILLES DE P.A.: TU XC 35

	C	Mn	Si	P max	S max
Mini	0,32	0,5	0,15	0,035	0,035
Maxi	0,38	0,8	0,40		

BOUTEILLES DE PLONGEE: 35 CD 4 - 34 Cr Mo 4

	C	Si	Mn	Cr	Mo	P max	S max
Mini	0,32	0,15	0,60	0,90	0,15	0,030	0,035
Maxi	0,37	0,35	0,80	1,20	0,25		

ALLIAGES D'ALUMINIUM

BOUTEILLES ANCIENNES: A-G5 M0,7 (5283)

	Mg	Mn	Cu max	Fe max	Si max
Mini	4,5	0,5	0,03	0,3	0,3
Maxi	5,1	1,0			

NOUVELLES BOUTEILLES: A-SGM0,7 (6082)

	Si	Mg	Mn	Cu max	Cr max	Fe max
Mini	0,7	0,6	0,4	0,1	0,25	0,5
Maxi	1,3	1,2	1			

MATERIAUX UTILISES POUR LA  
FABRICATION DES BOUTEILLES  
Caractéristiques mécaniques

### ACIERS

BOUTEILLES DE P.A.: TU XC 35

Re (MPa)	Rm (MPa)	A%
320	540	20

BOUTEILLES DE PLONGEE: 35 CD 4 - 34 Cr Mo 4

Re (MPa)	Rm (MPa)	A%
850	960	> 16

### ALLIAGES D'ALUMINIUM

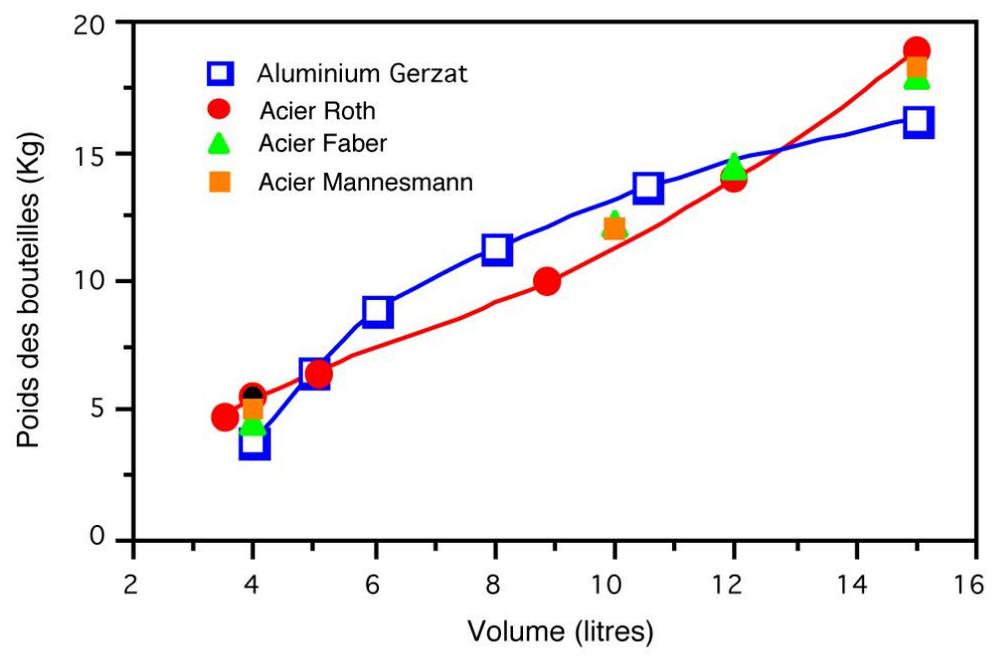
BOUTEILLES ANCIENNES: A-G5 MO,7 (5283)

Re (MPa)	Rm (MPa)	A%
270	340	12

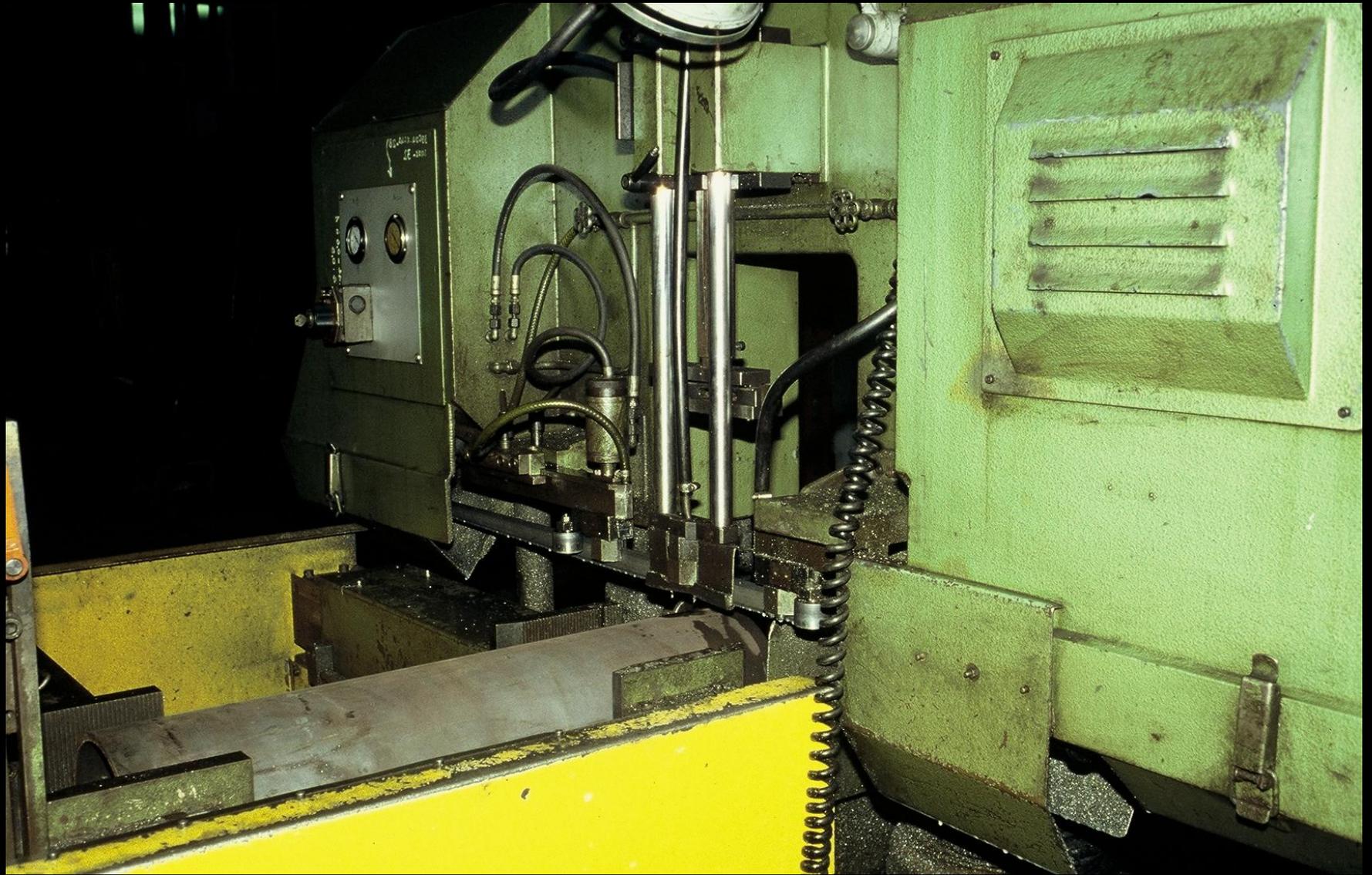
NOUVELLES BOUTEILLES: A-SG MO,7 (6082)

Re (MPa)	Rm (MPa)	A%
280	320	12,5

### Poids des bouteilles de plongée



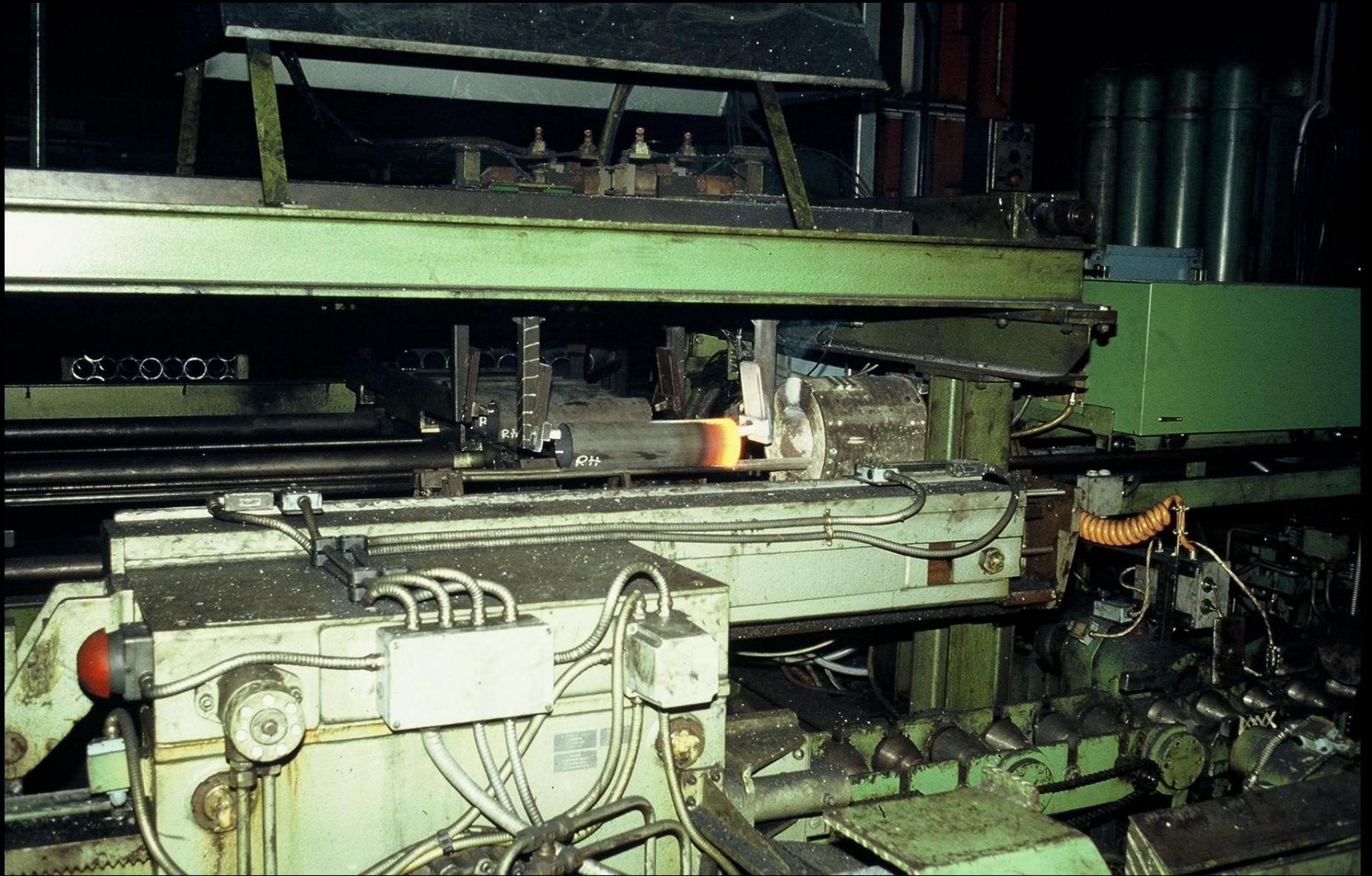


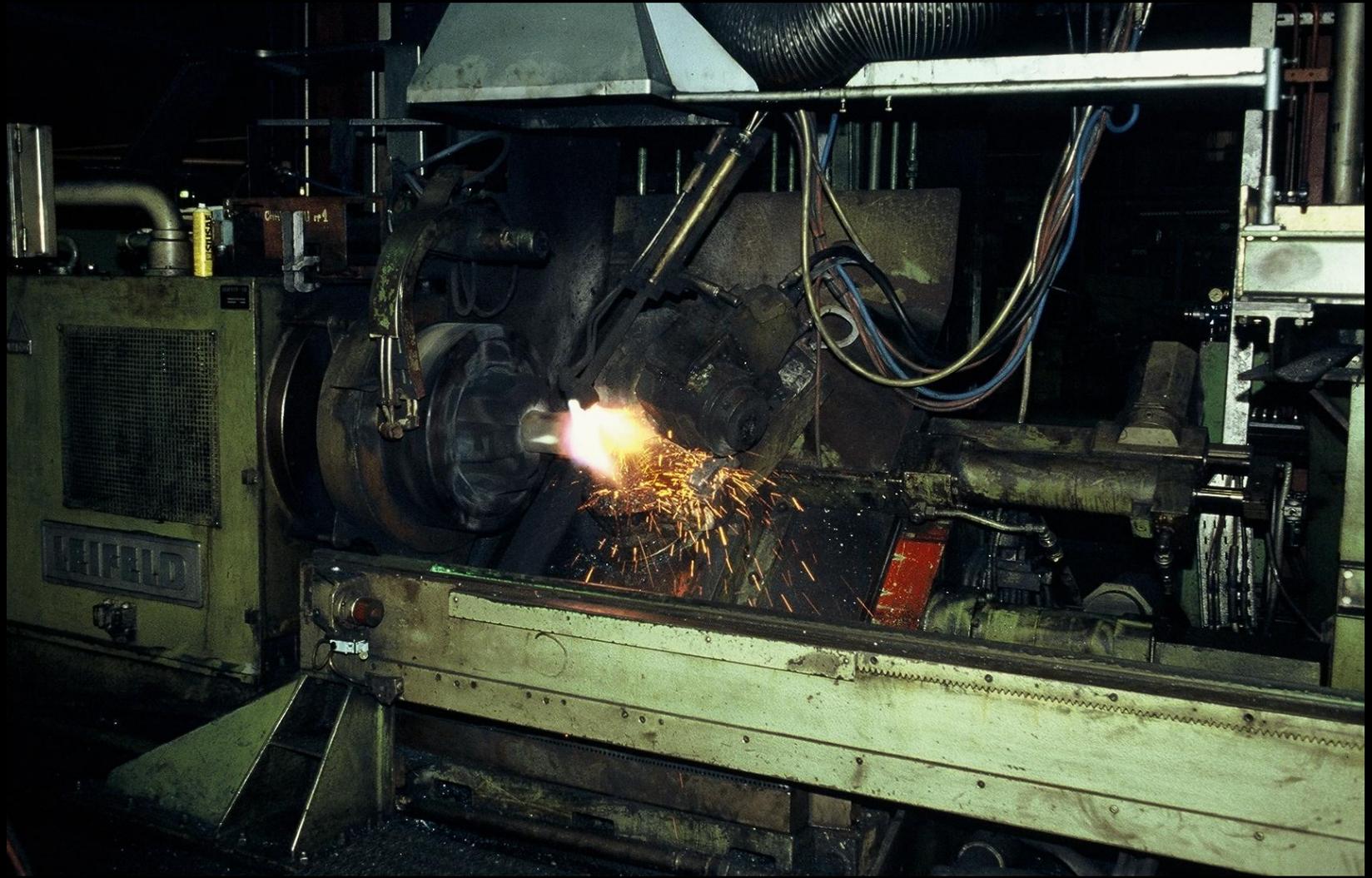


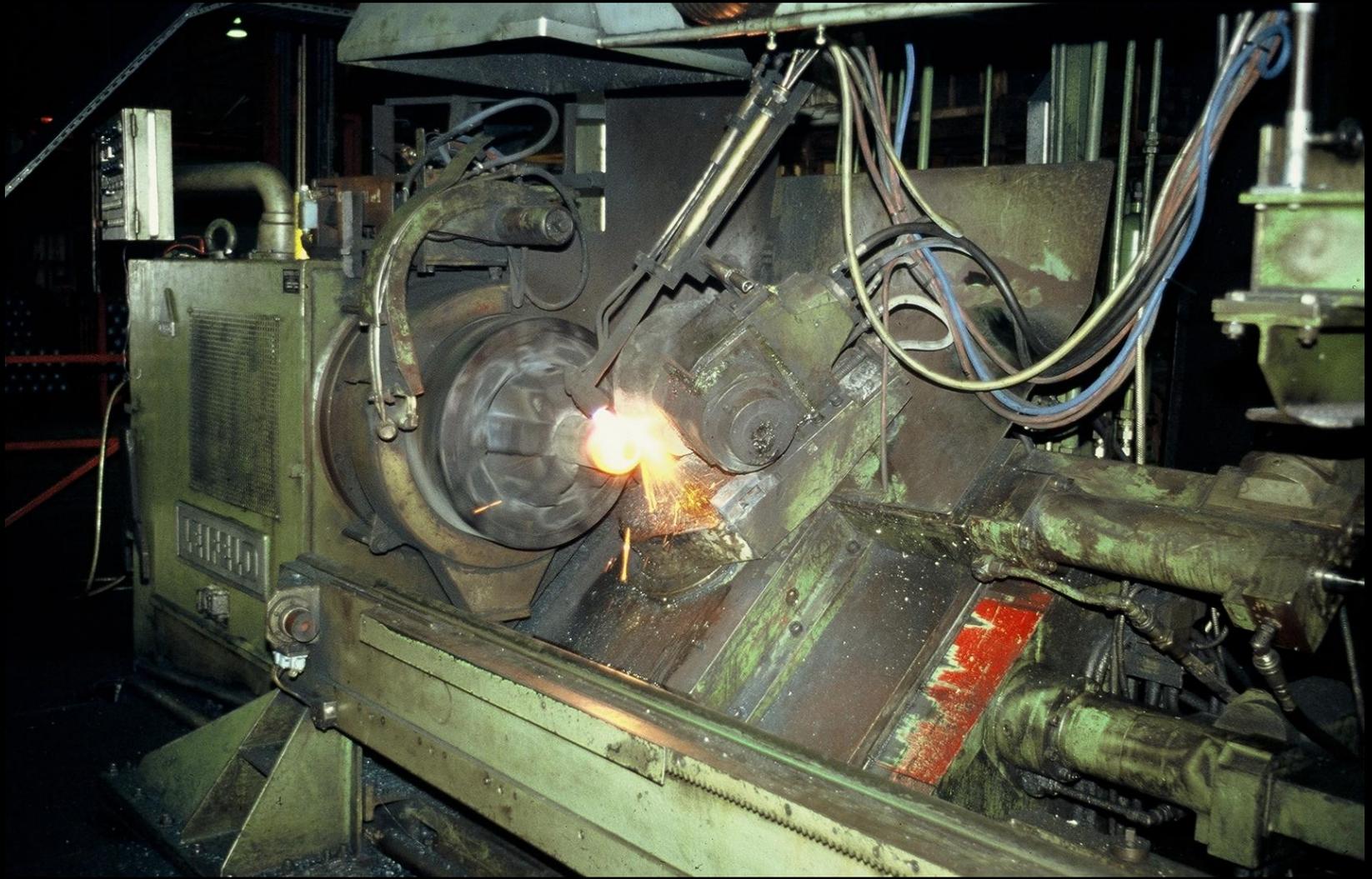


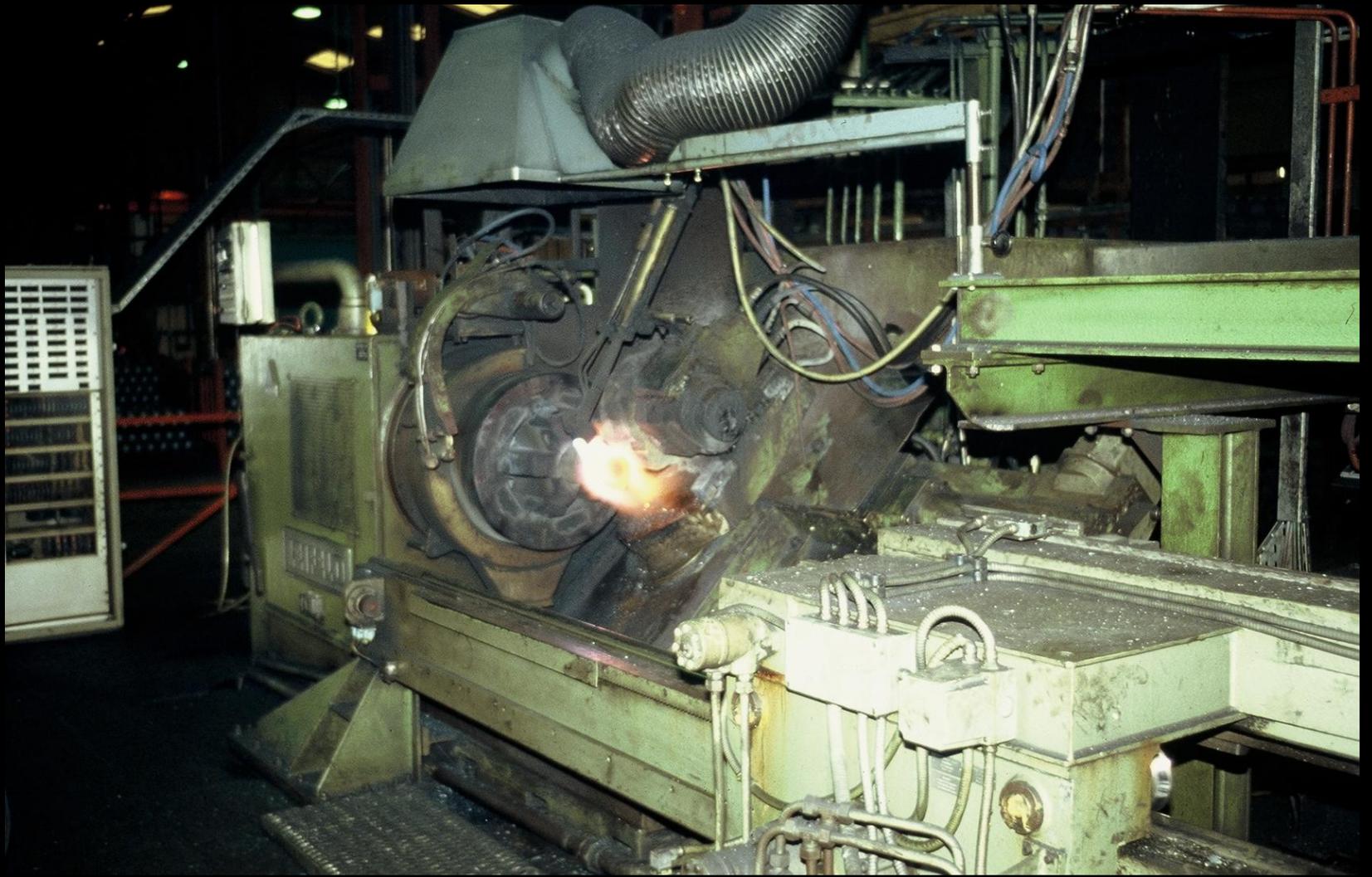


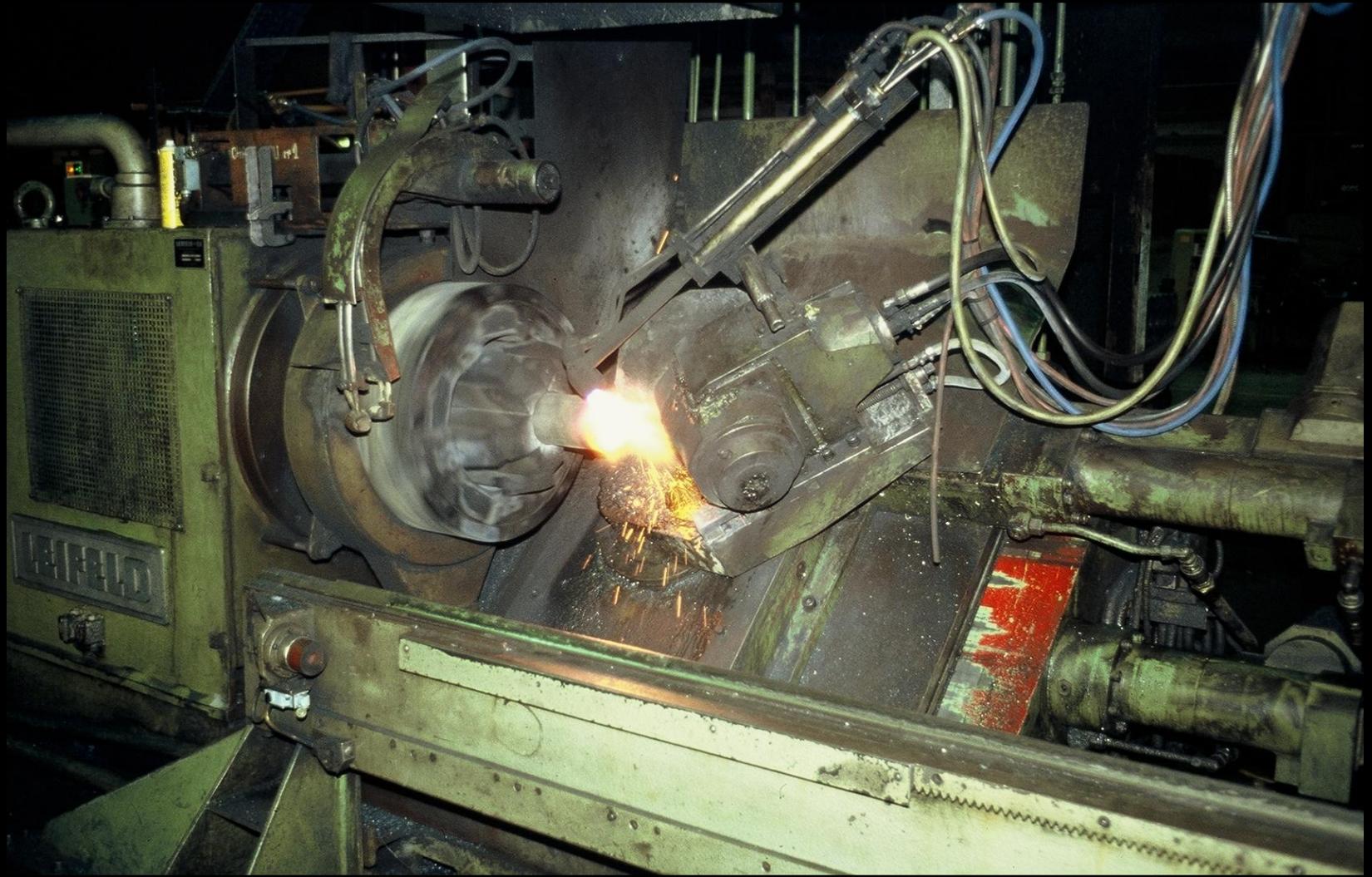




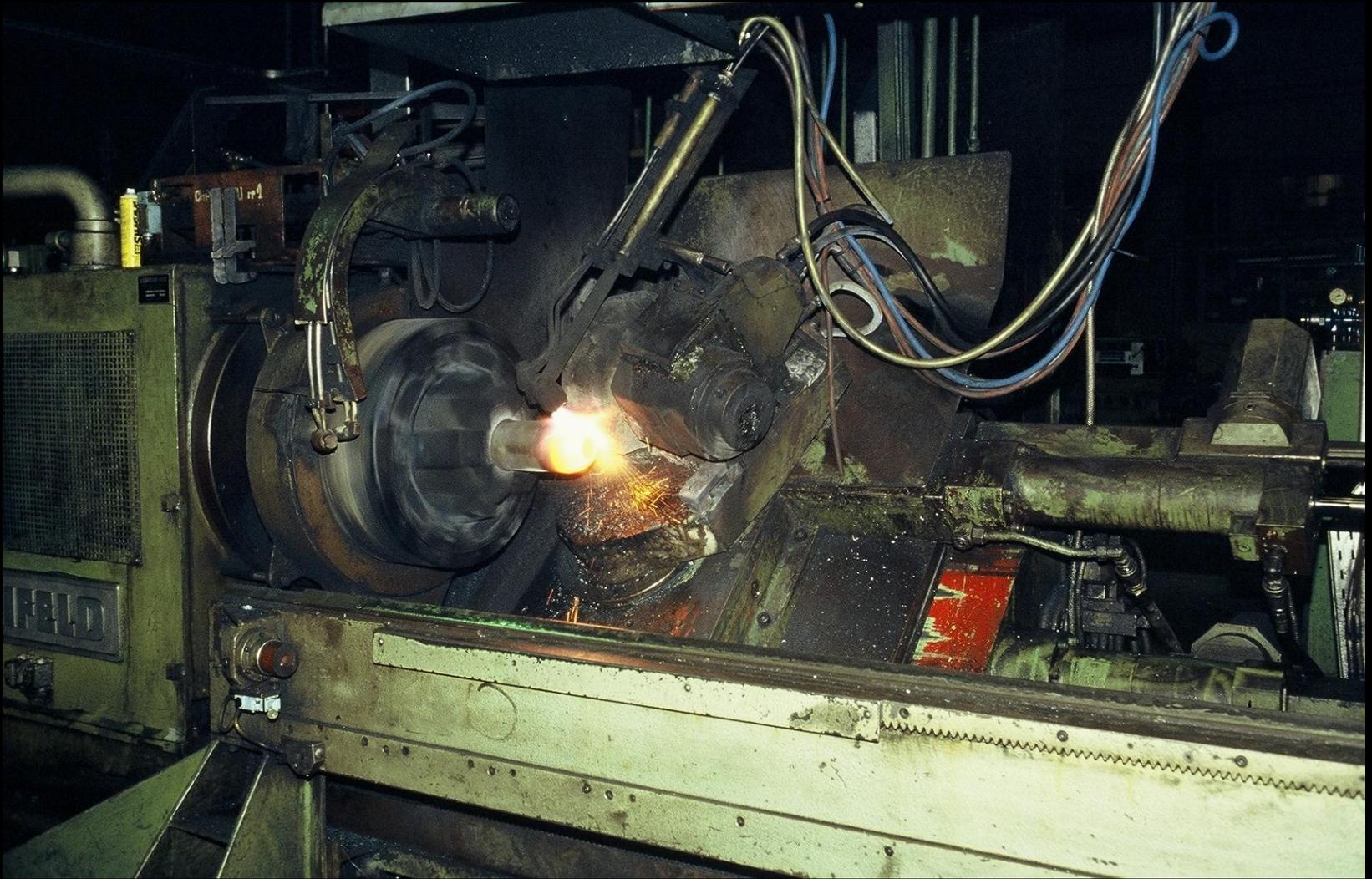




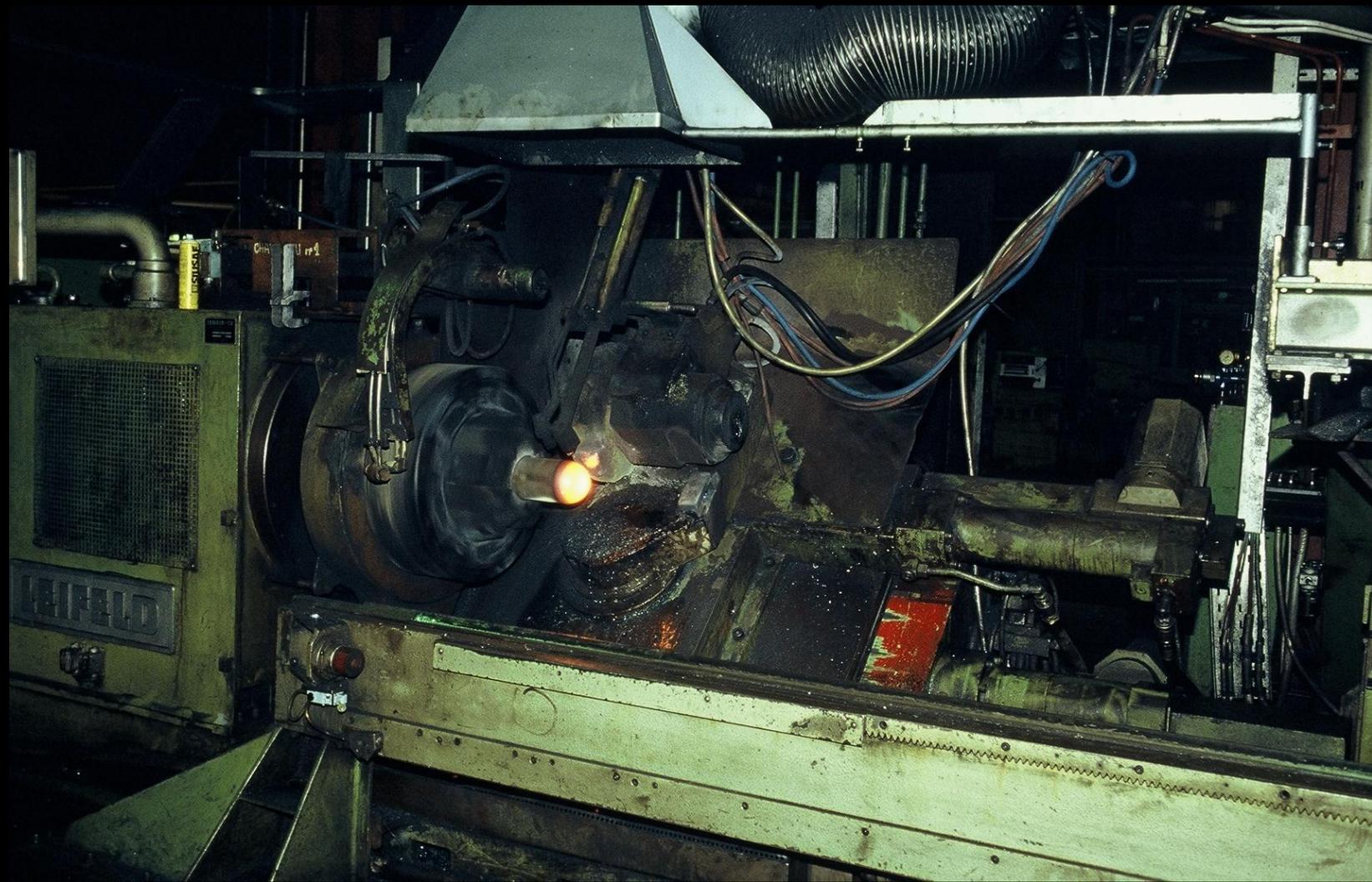




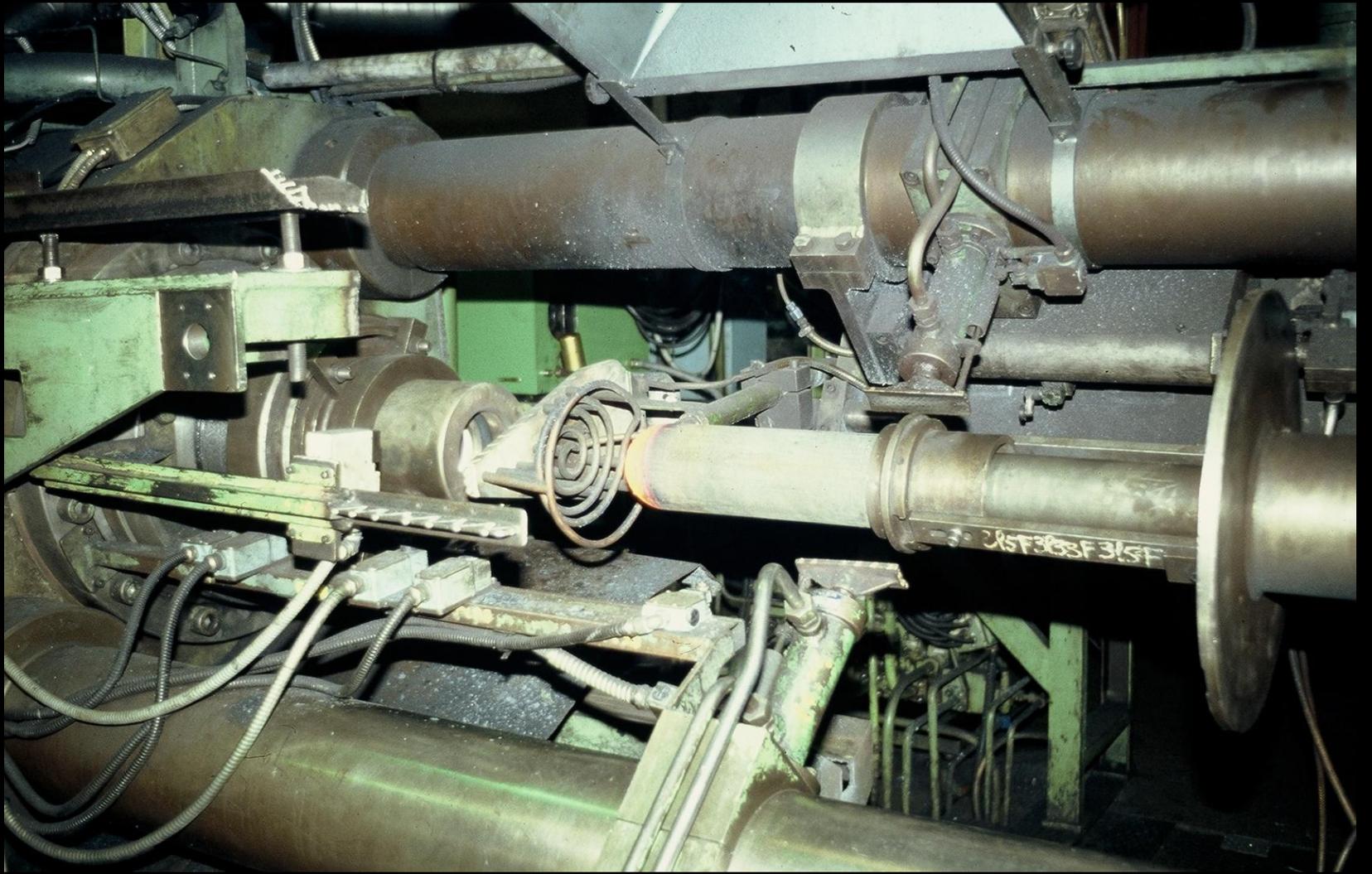










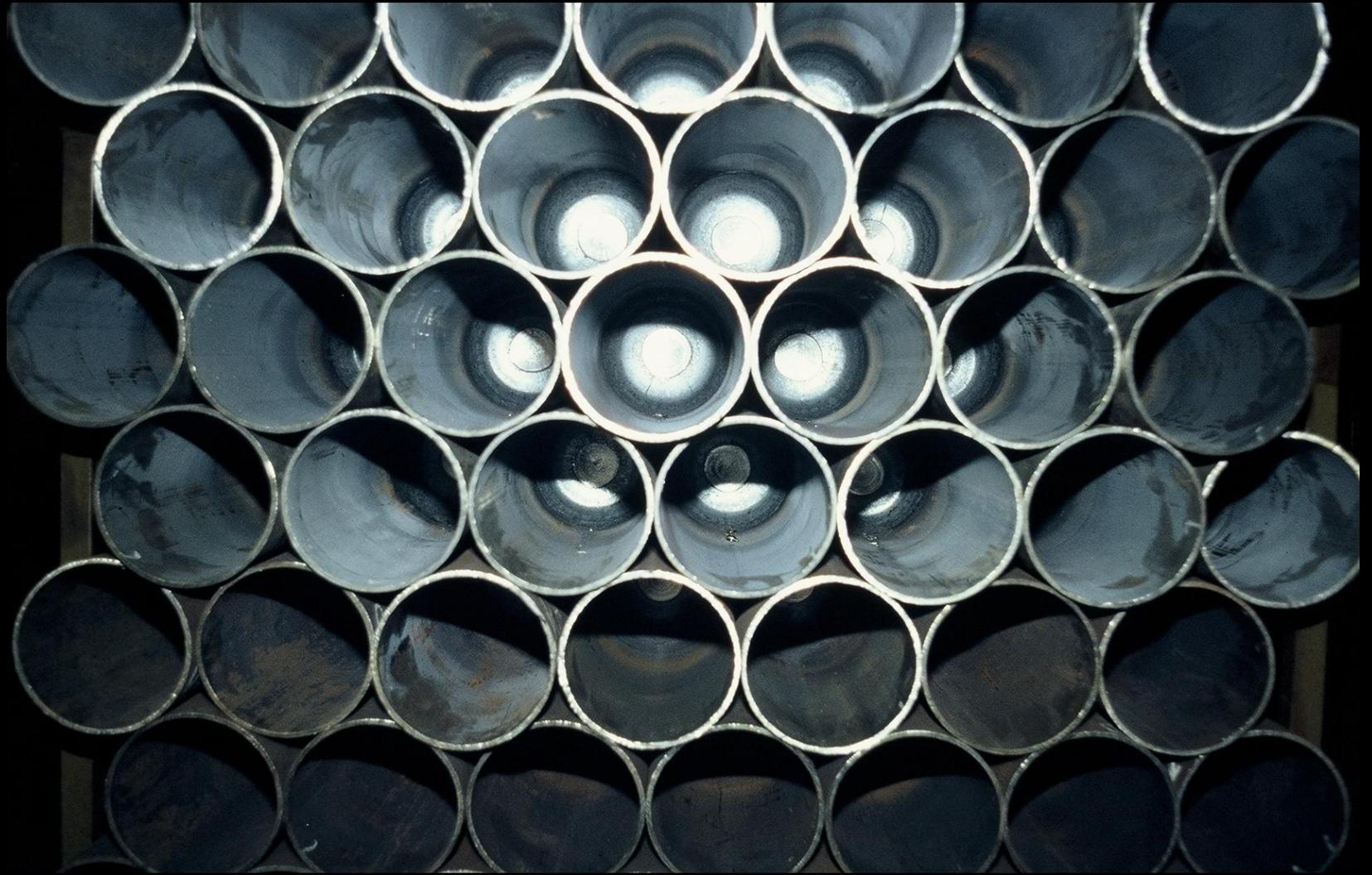


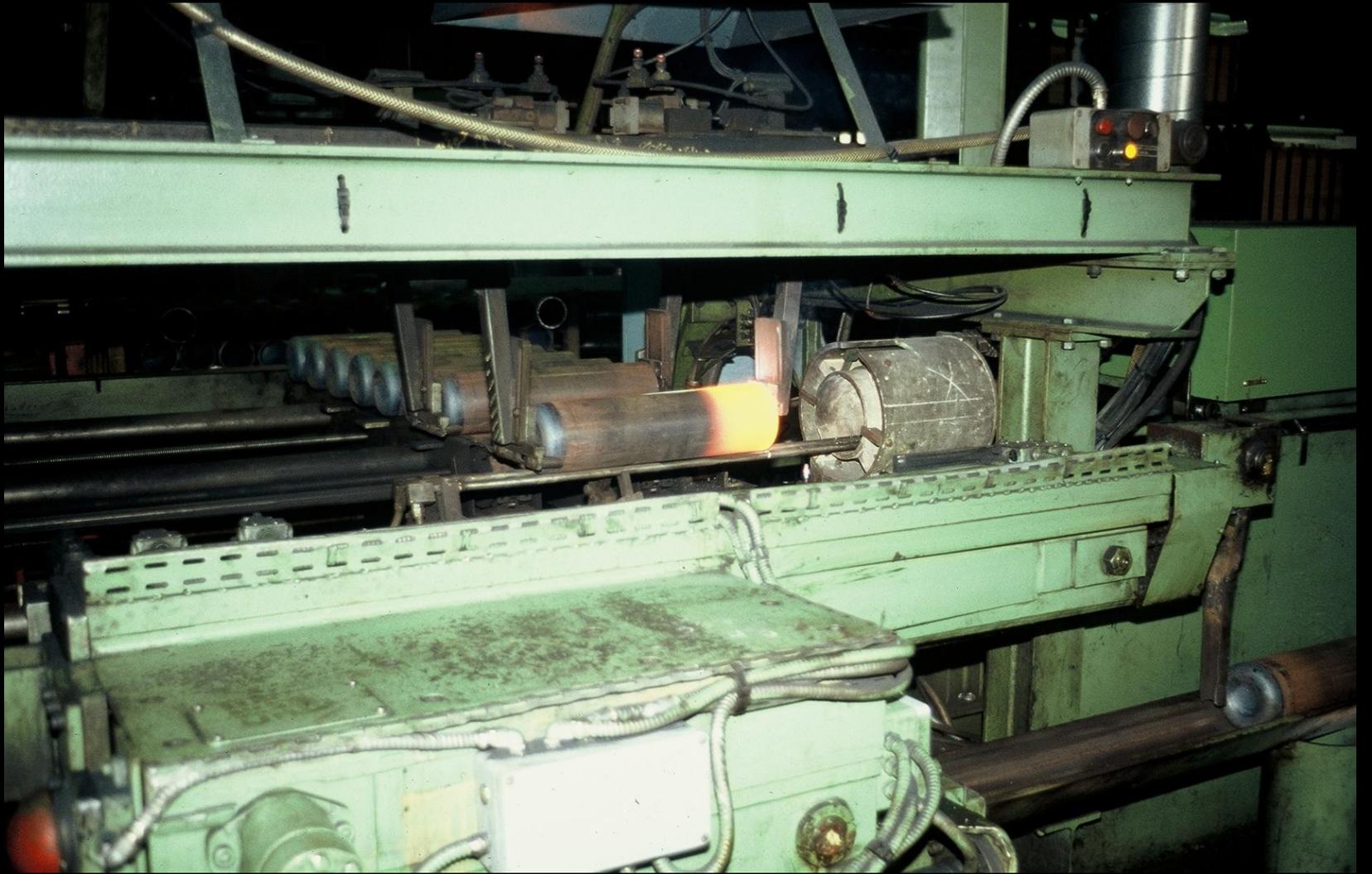


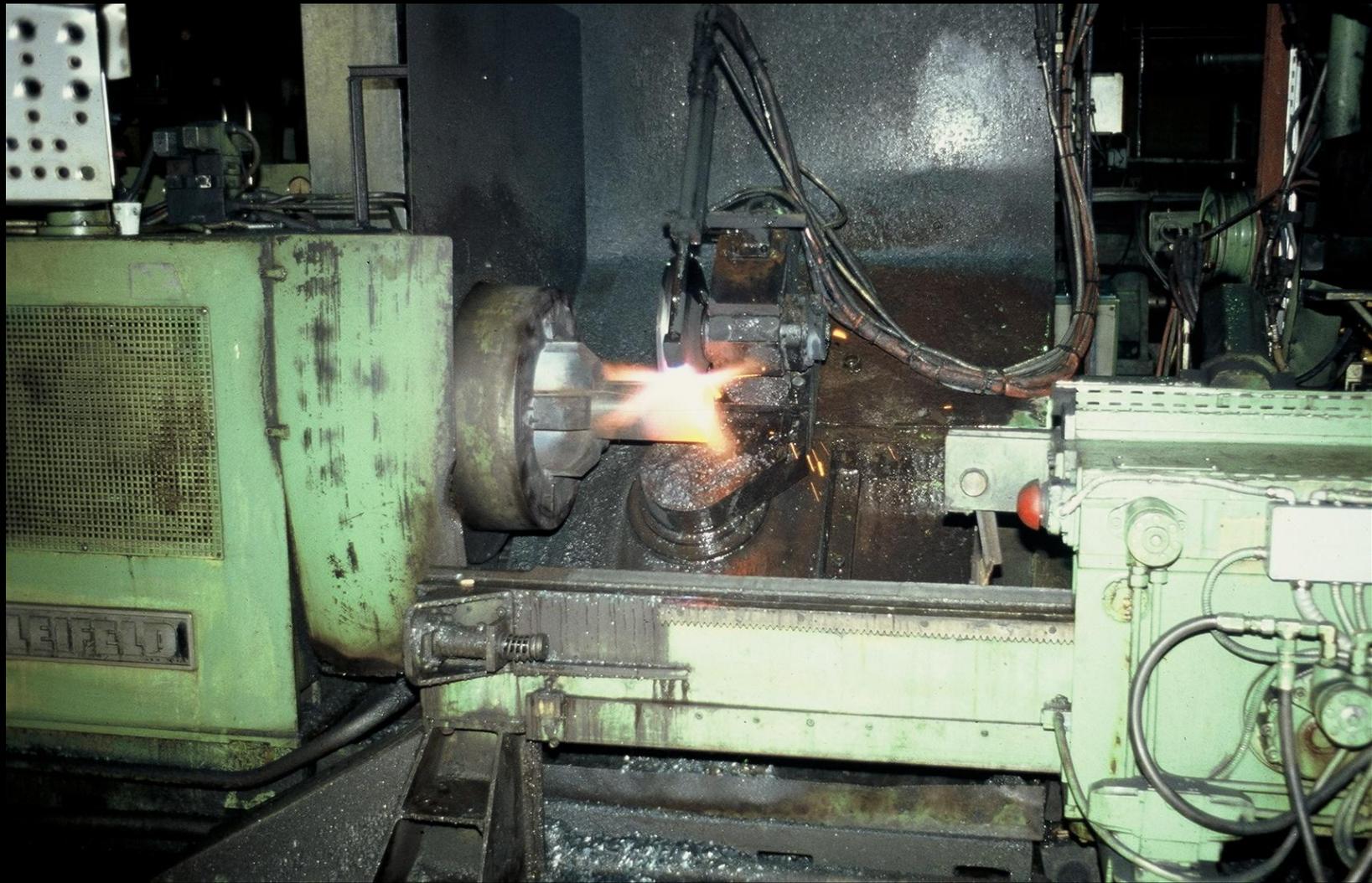










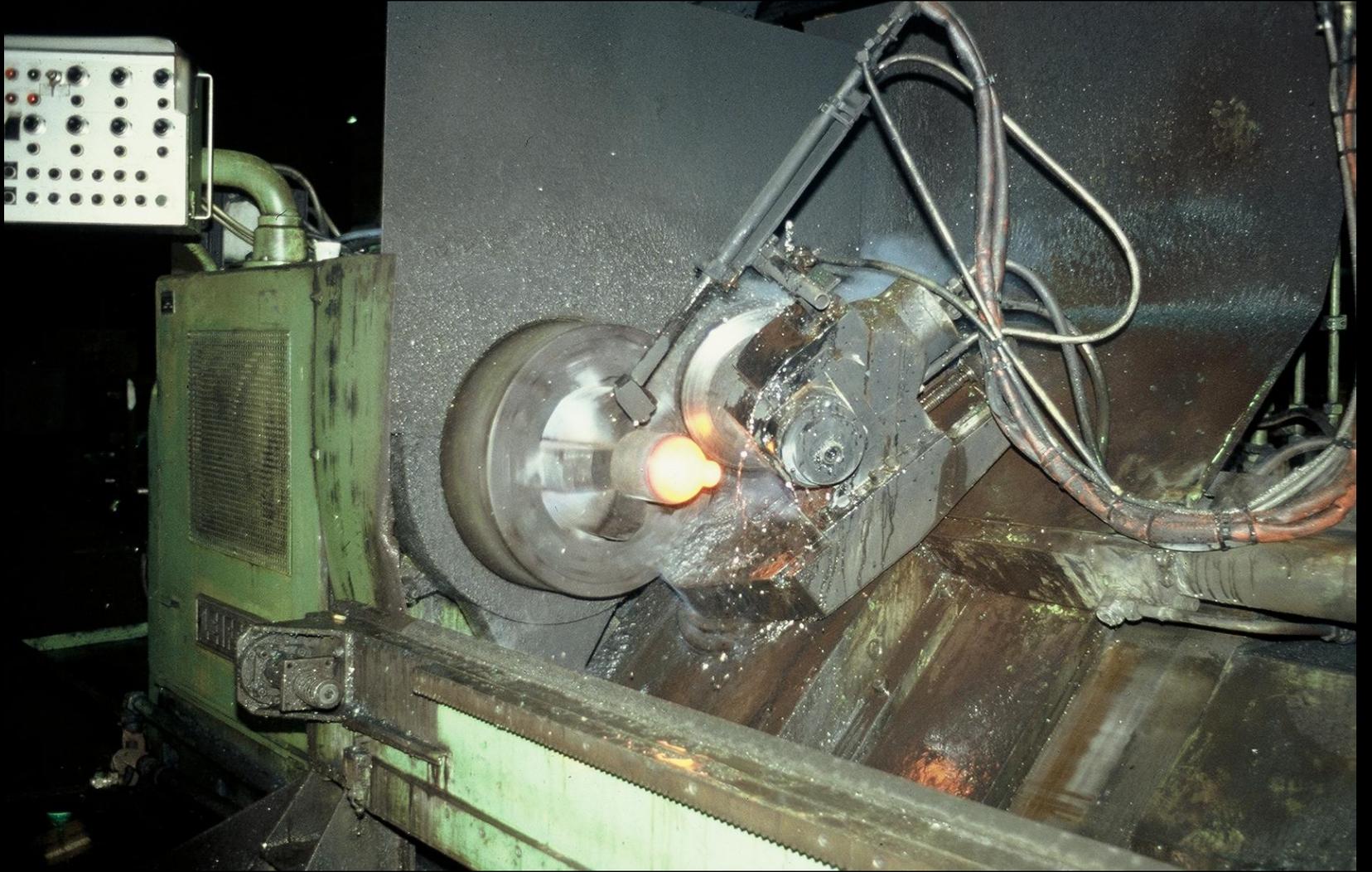


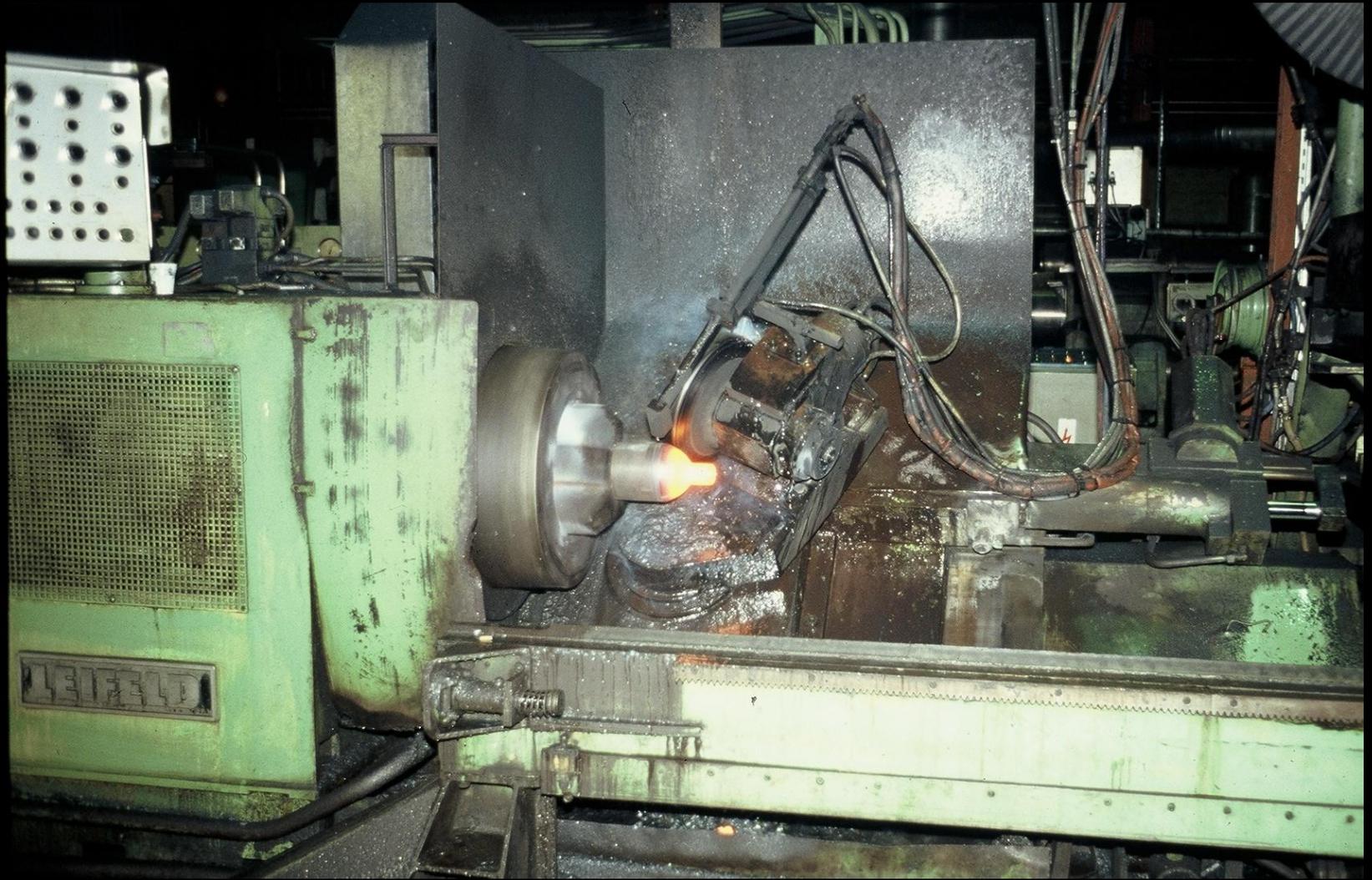


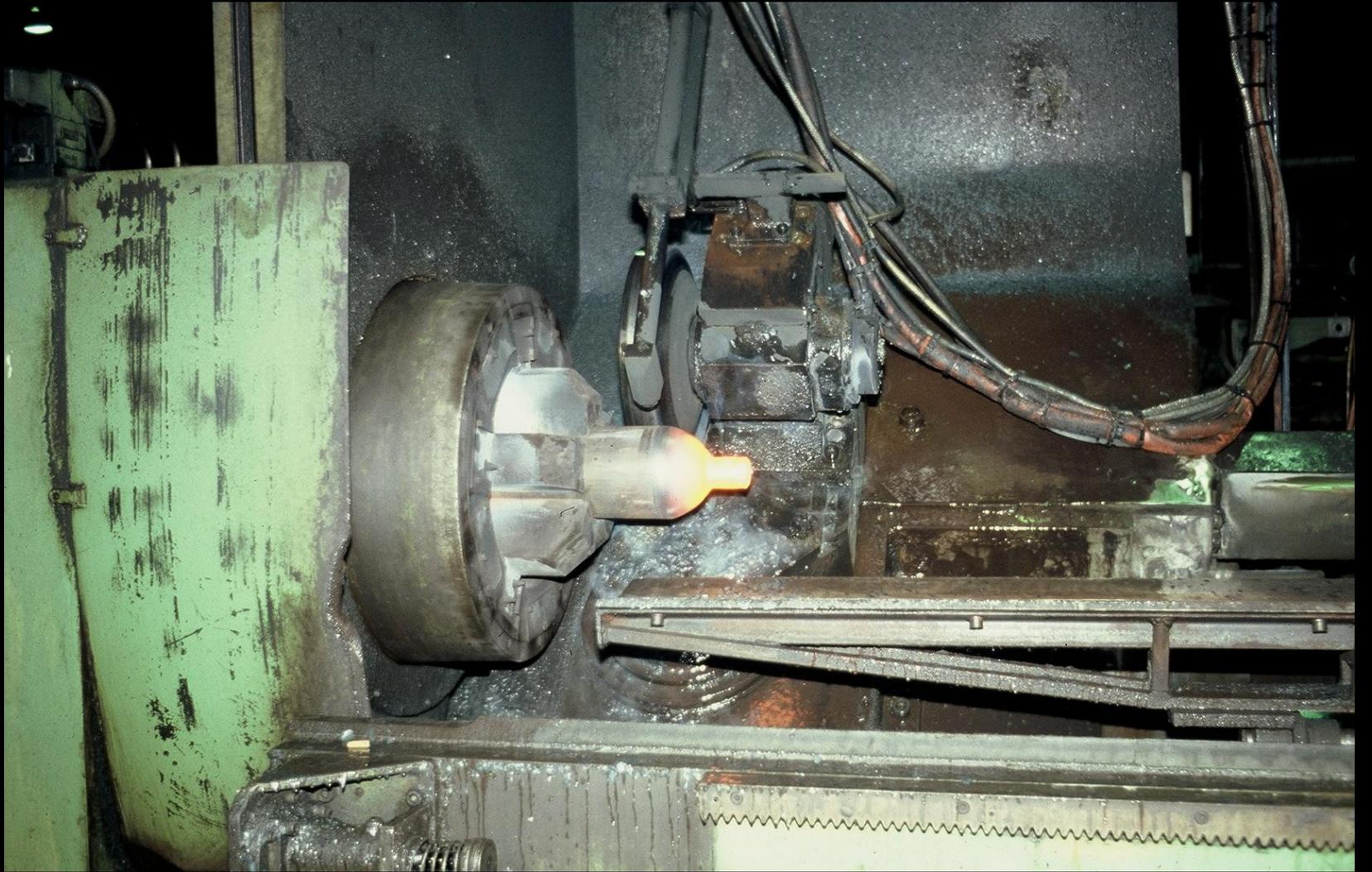










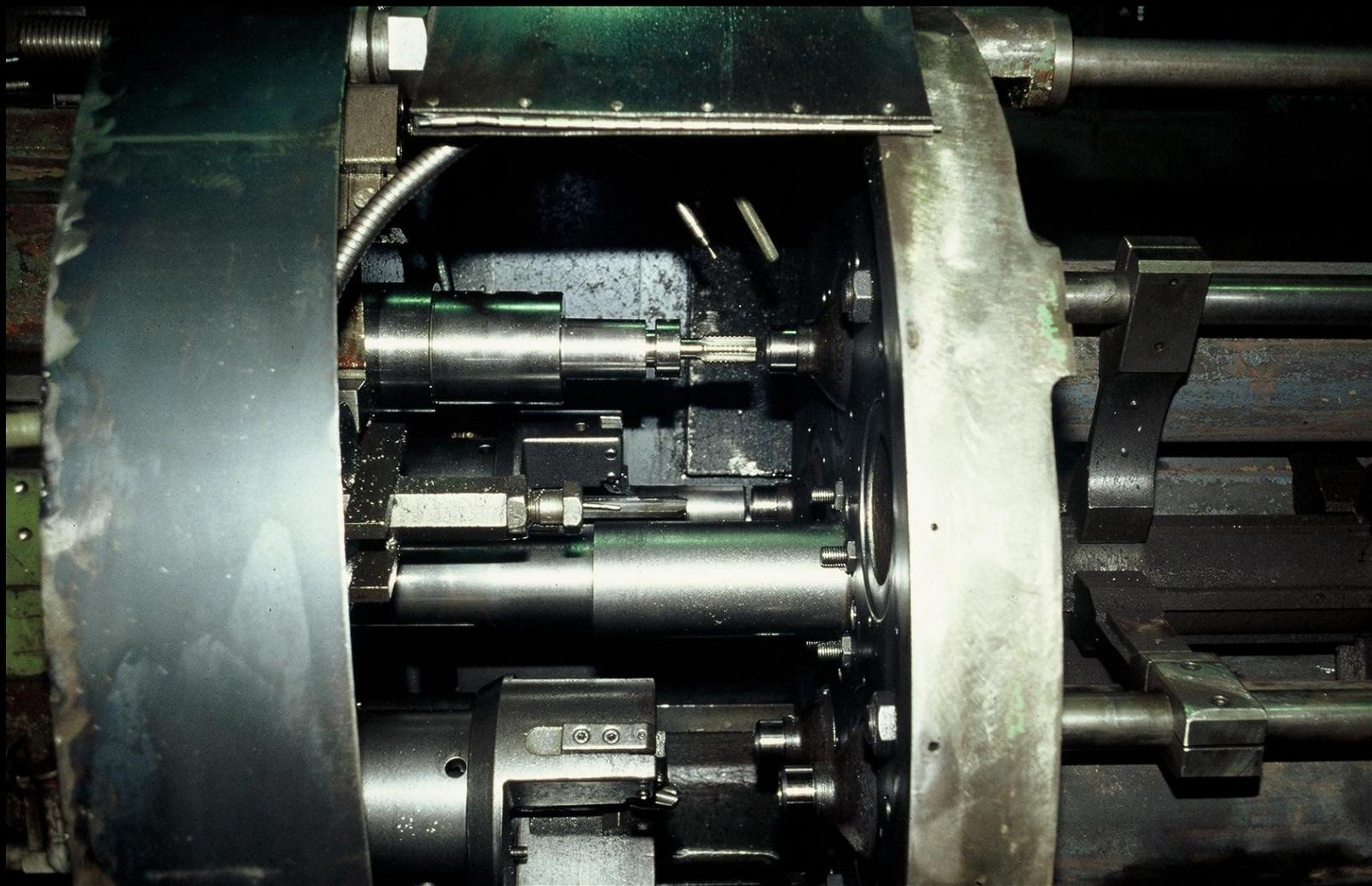




















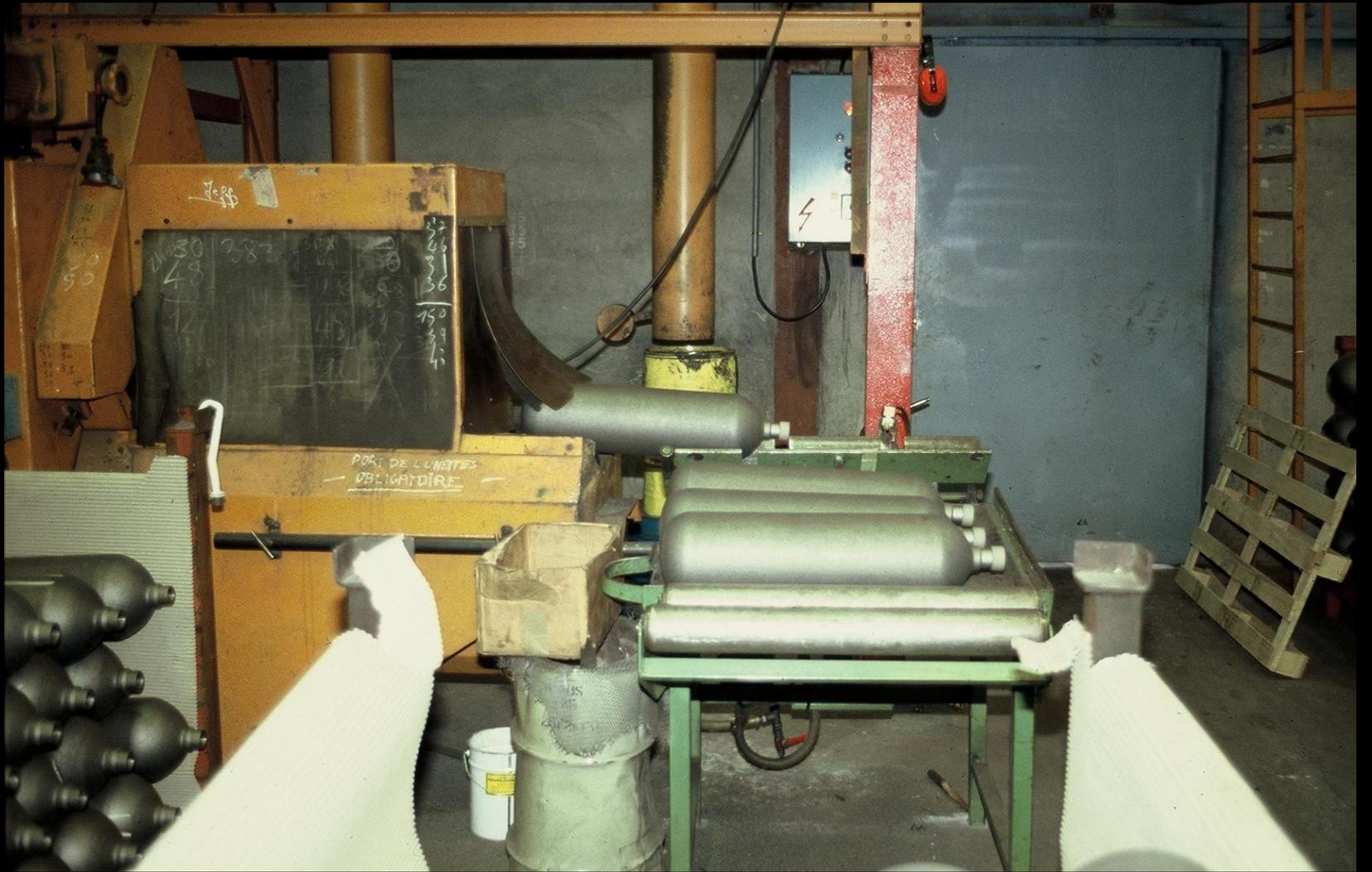




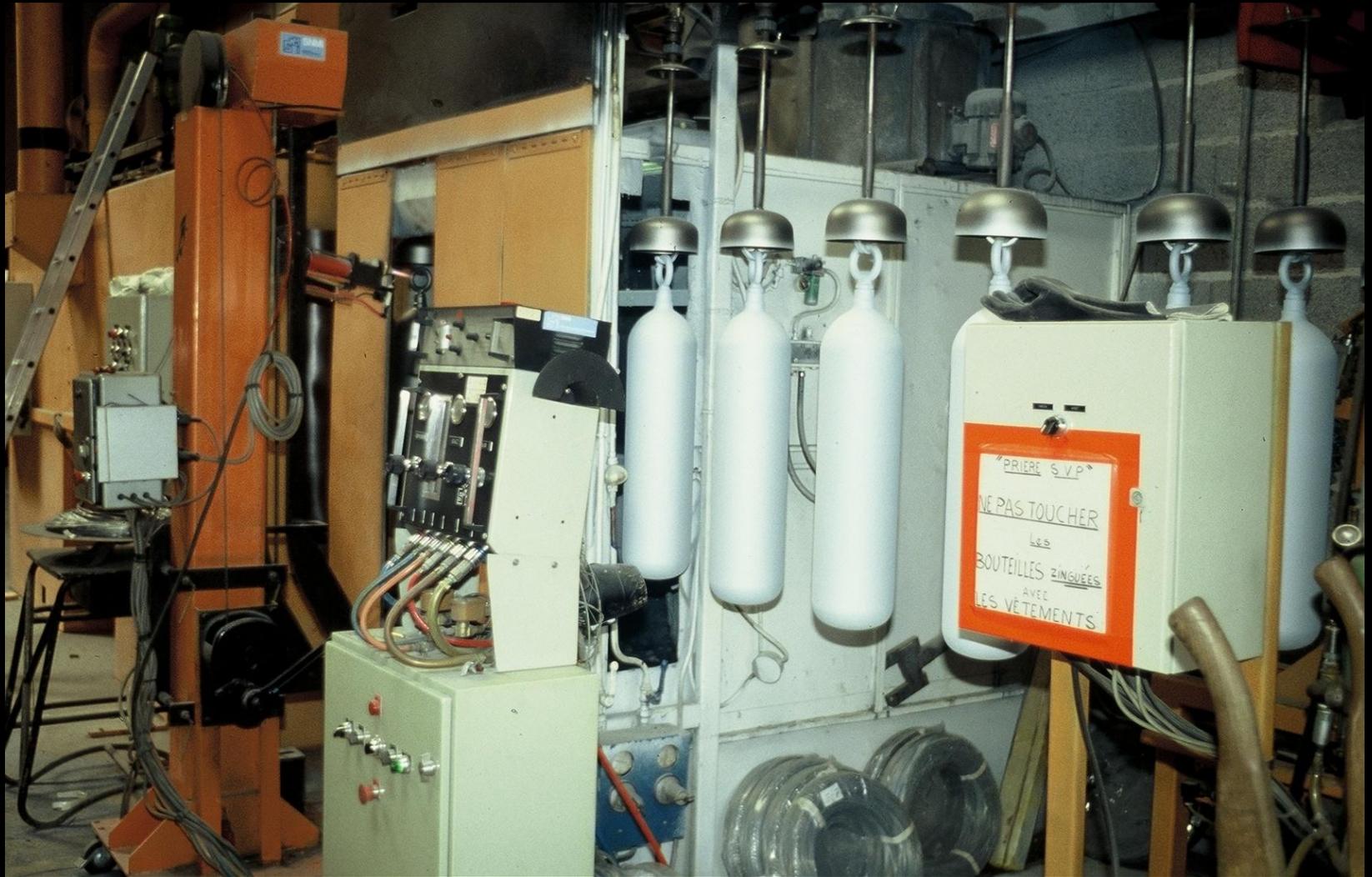








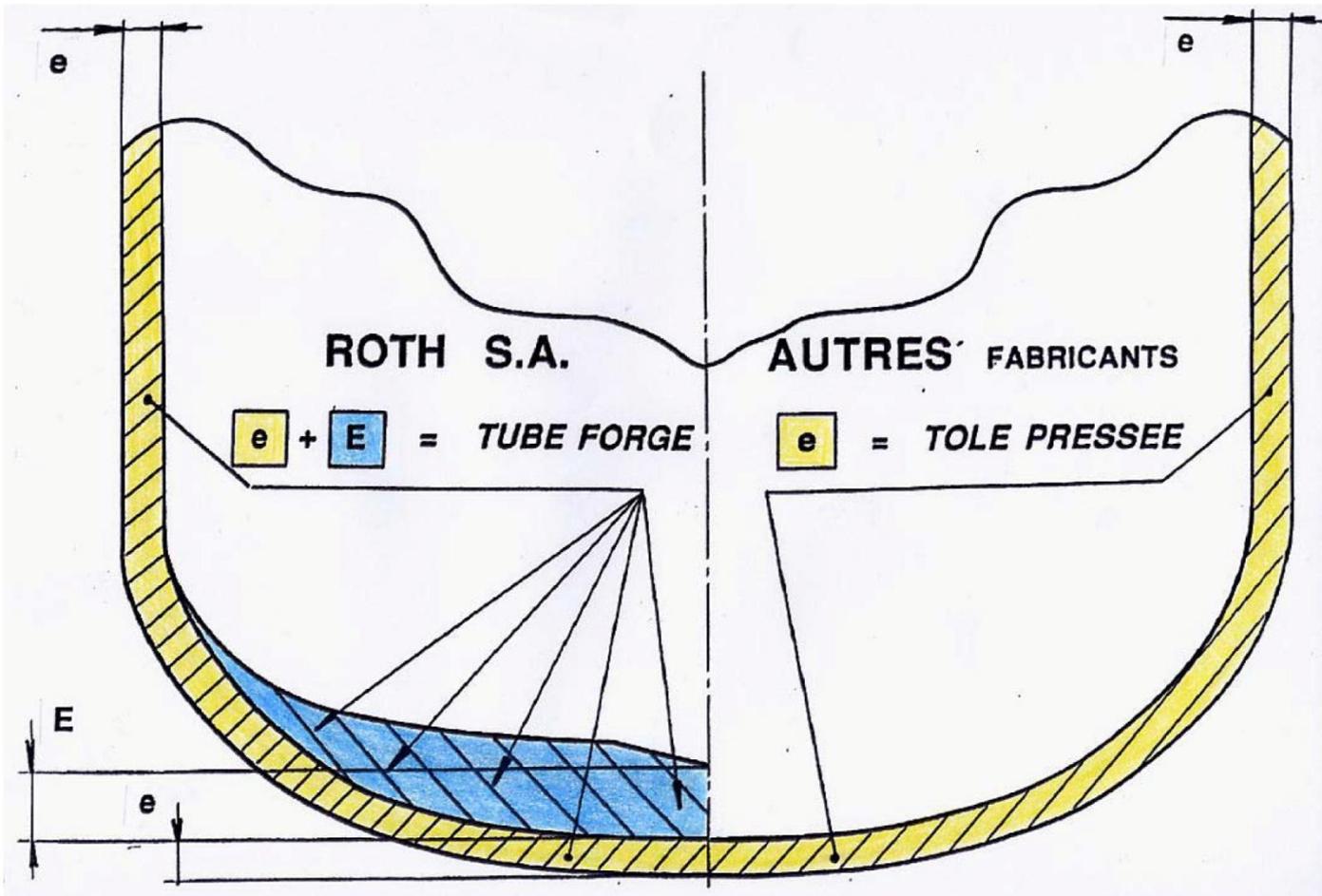










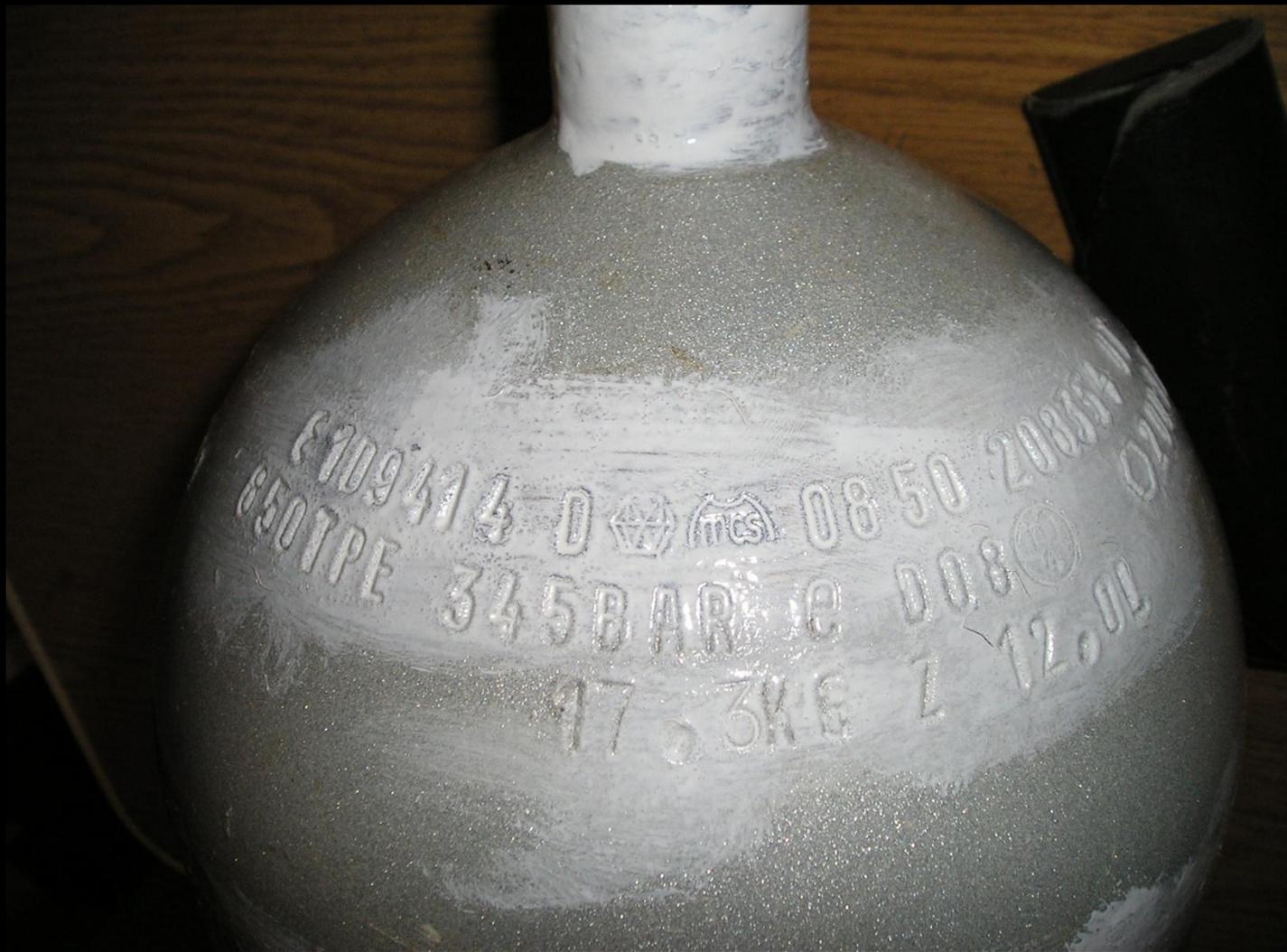


**Sigles des fabricants apposés sur les bouteilles,  
matériau utilisé et provenance**

<b>Roth</b>			
1941 à 1972	1972 à 1974	1975	1976 à 1983
	ROTH COLOMBES	OLAER MIONS	
			1983 à 1992
			Depuis 1992
			
<b>France</b>			
Mannesmann	IWKA	Heiser	IWKA
	<b>I W K A</b>		<b>F A B E R</b>
Acier Allemagne	Acier Allemagne	Acier Autriche	Acier Italie
<b>LUXFER</b>	Société Métallurgique de Gerzat	Société Lorraine-Escaut	Société de forgeage de Rive de Gier
<b>L U X F E R</b>	<b>S.M. GERZAT</b>	<b>E M A N Z I N</b>	
Alliage d'aluminium Royaume-Uni	Alliage d'aluminium France	Acier France	Acier France

J.P. MONTAGNON - FFESSM





E109414  
850TPE

D   MCS

345BAR

17.3KG

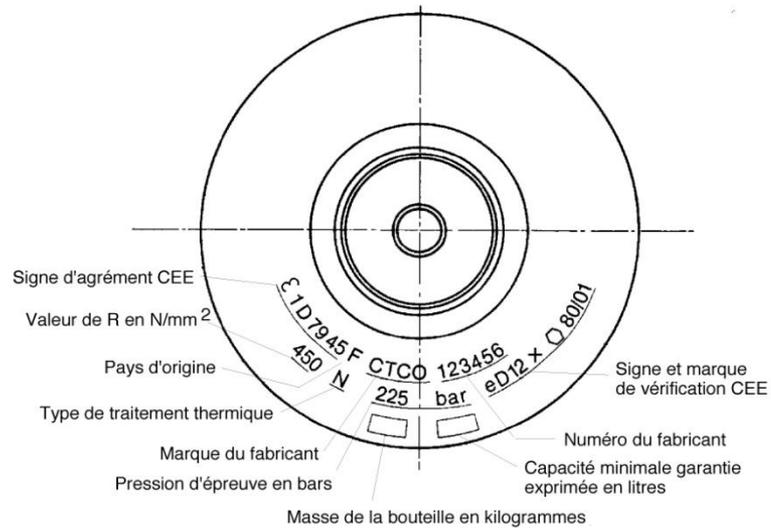
0850

D08

12.0L

208354

### Inscriptions sur les bouteilles de plongée conformément à la directive européenne



**En France :** Nature du gaz  
Pression de service à 15°



**FIN**