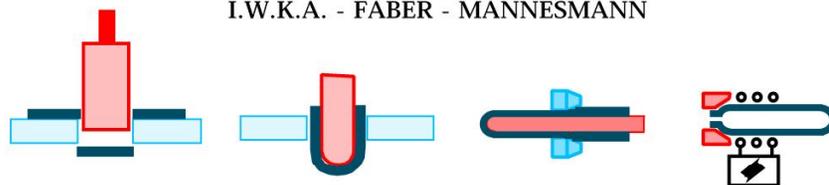


# **La fabrication des bouteilles de plongée**

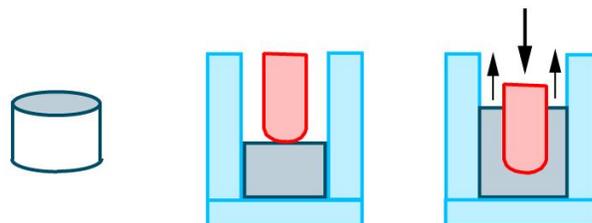
## MISE EN FORME DES BOUTEILLES

F1

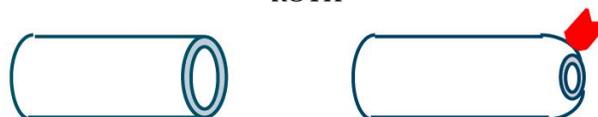
I.W.K.A. - FABER - MANNESMANN



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 M0,7 (5283)

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

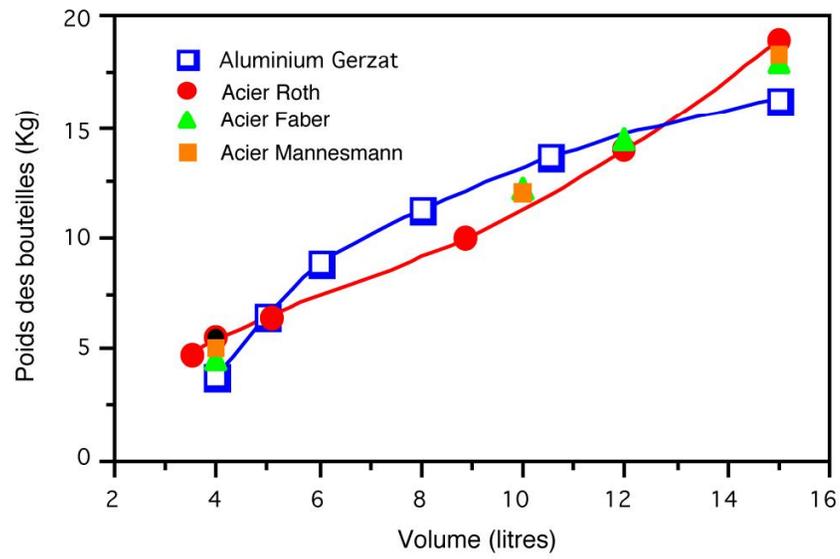
NOUVELLES BOUTEILLES: A-SG M0,7 (6082)

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



F4

### Poids des bouteilles de plongée



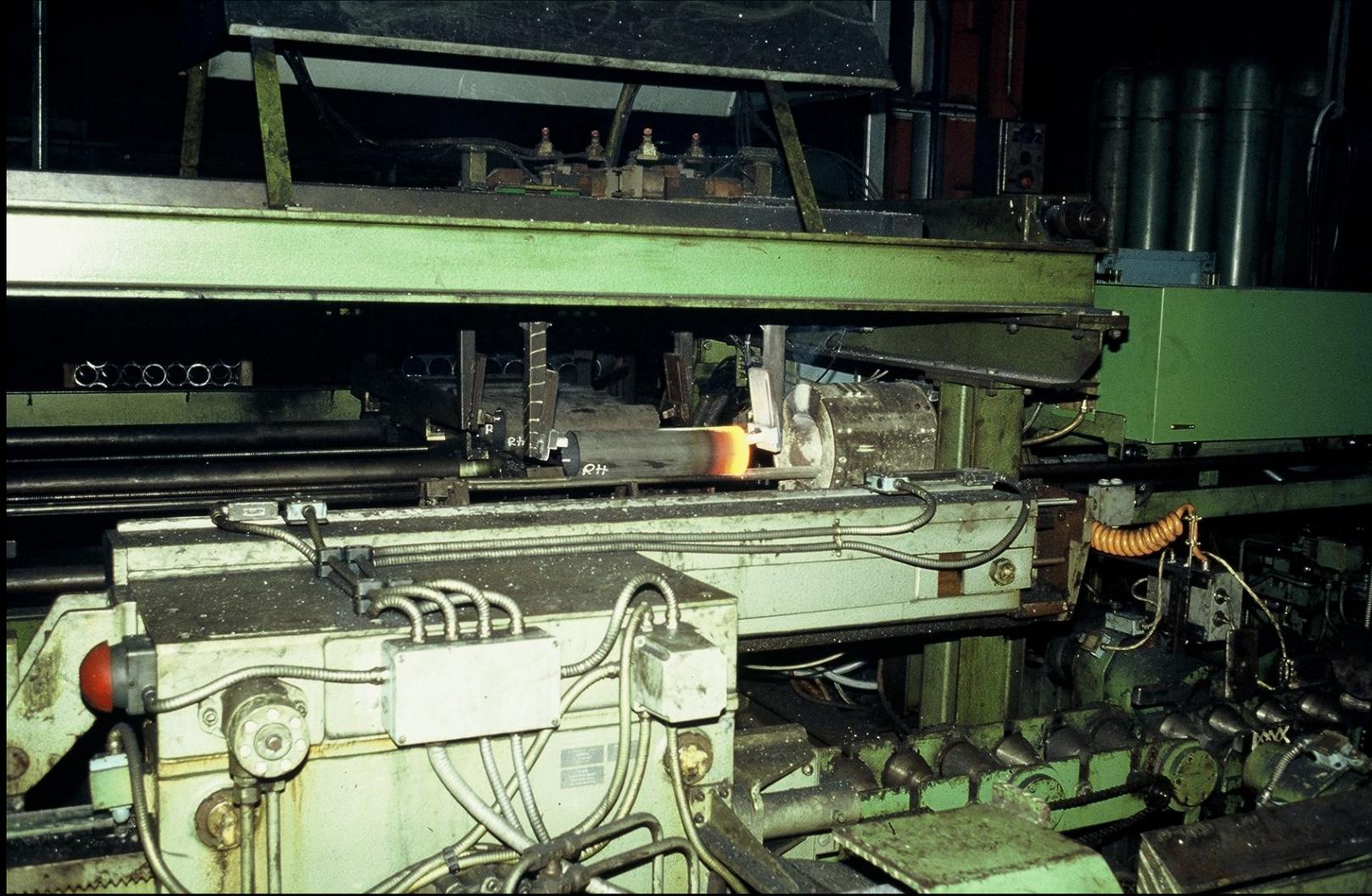


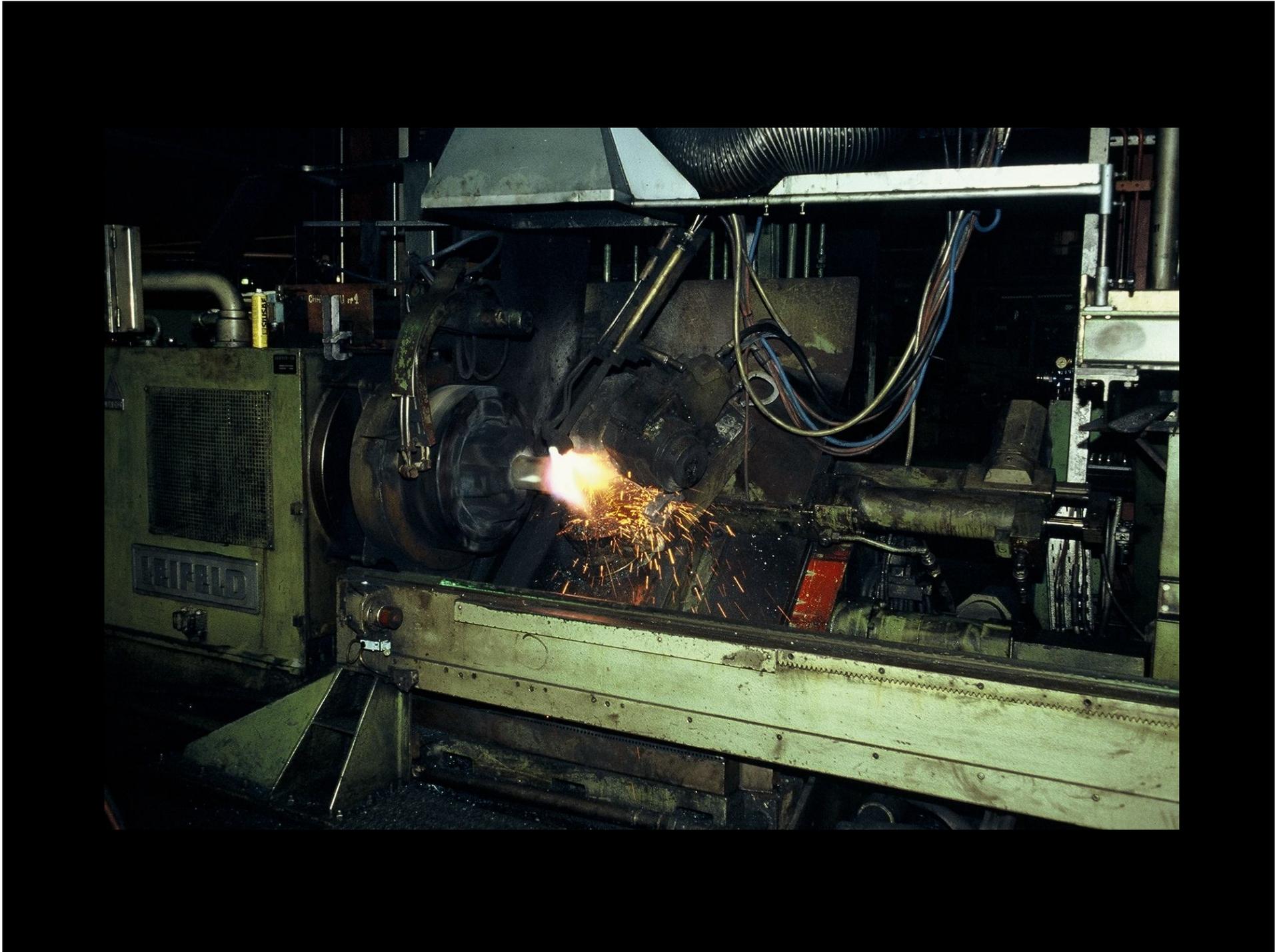


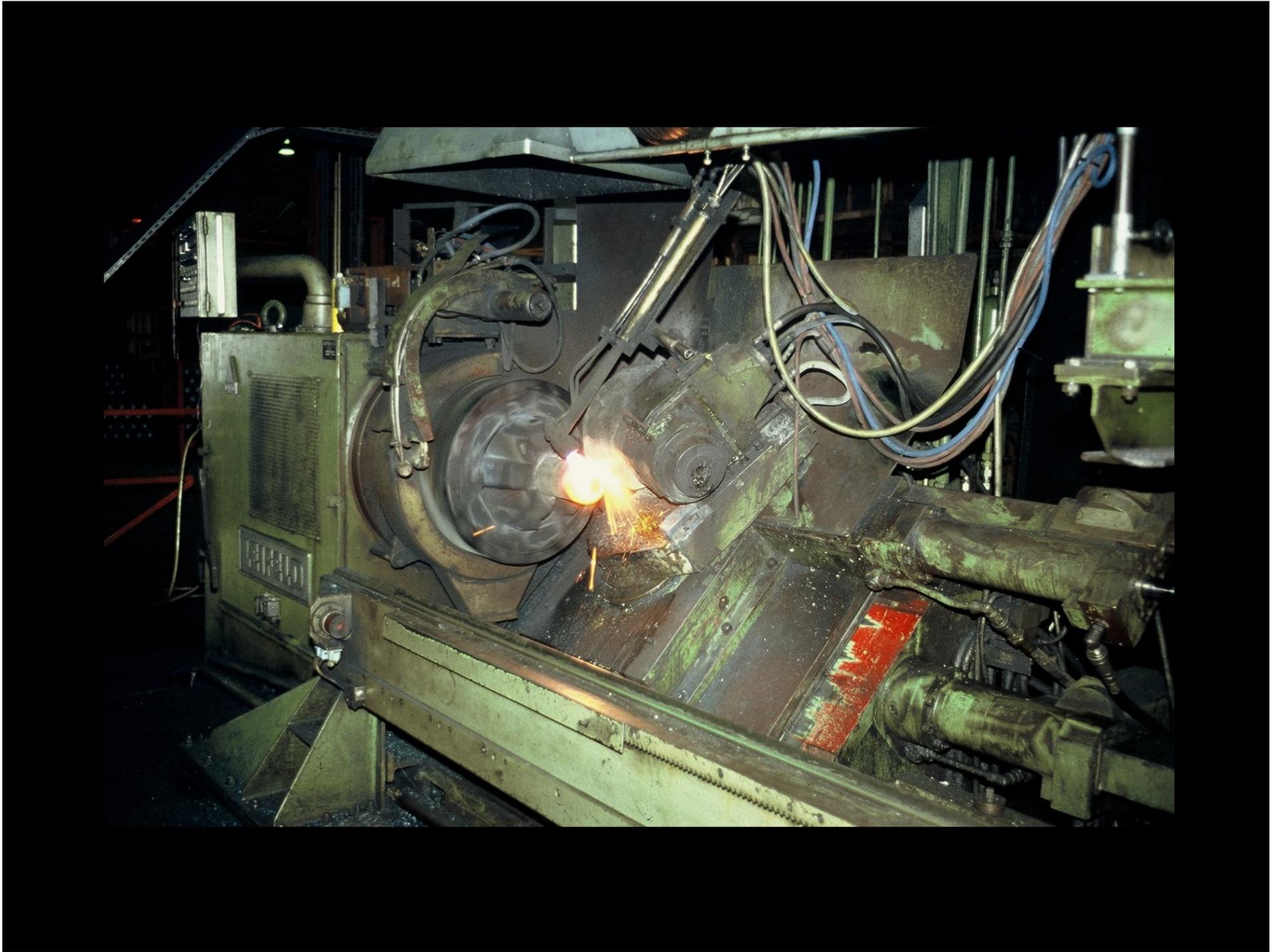




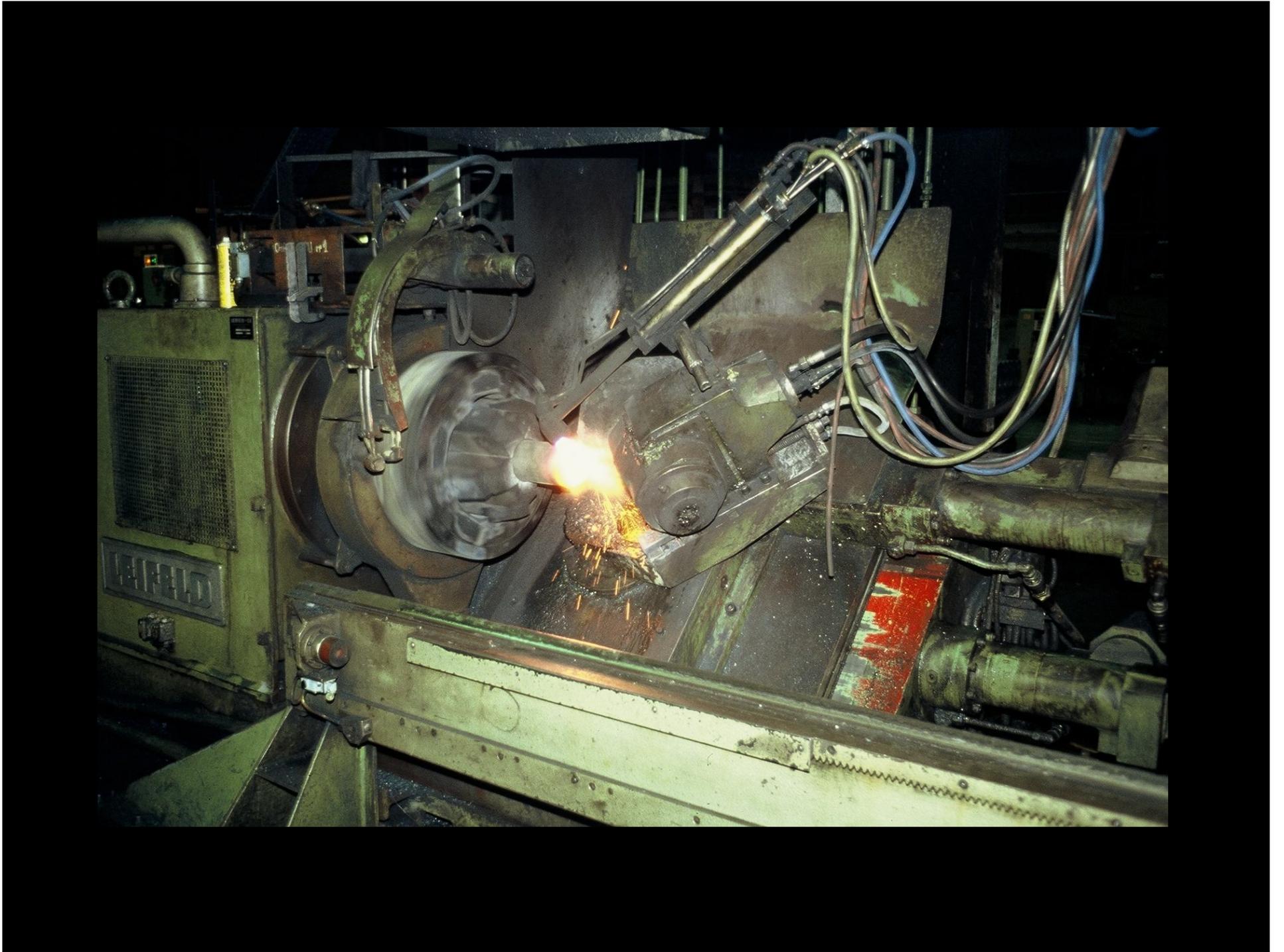


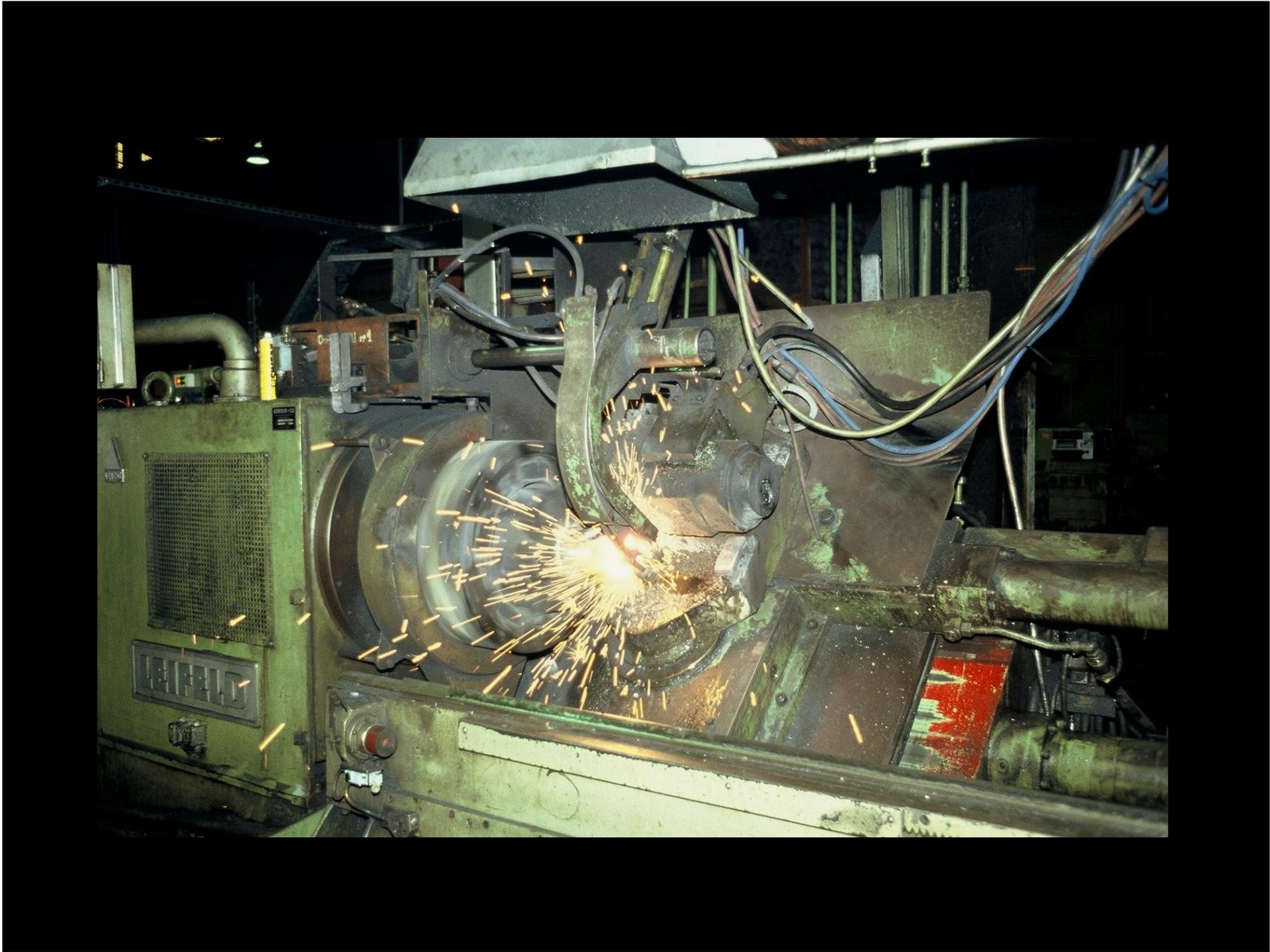


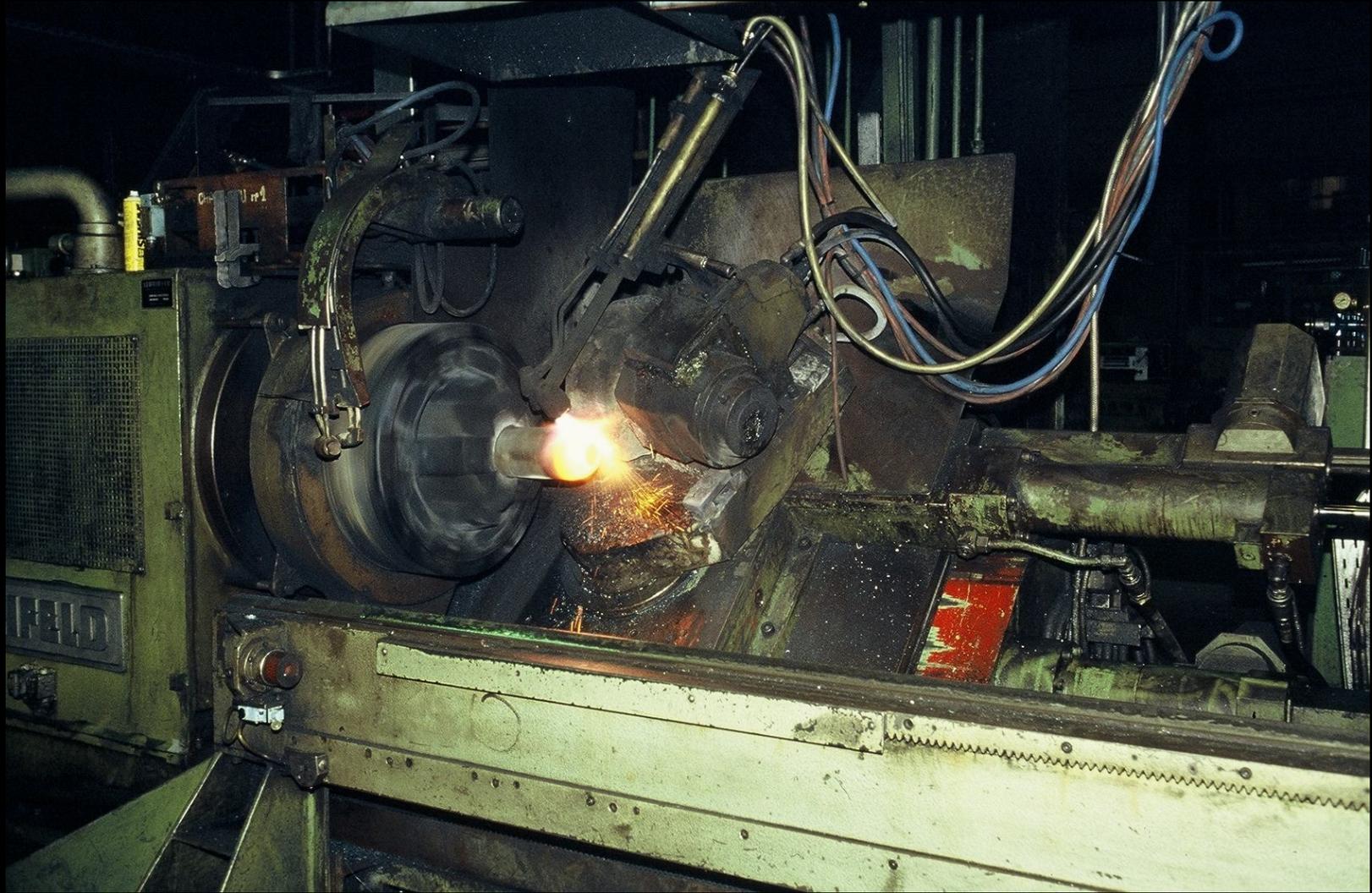




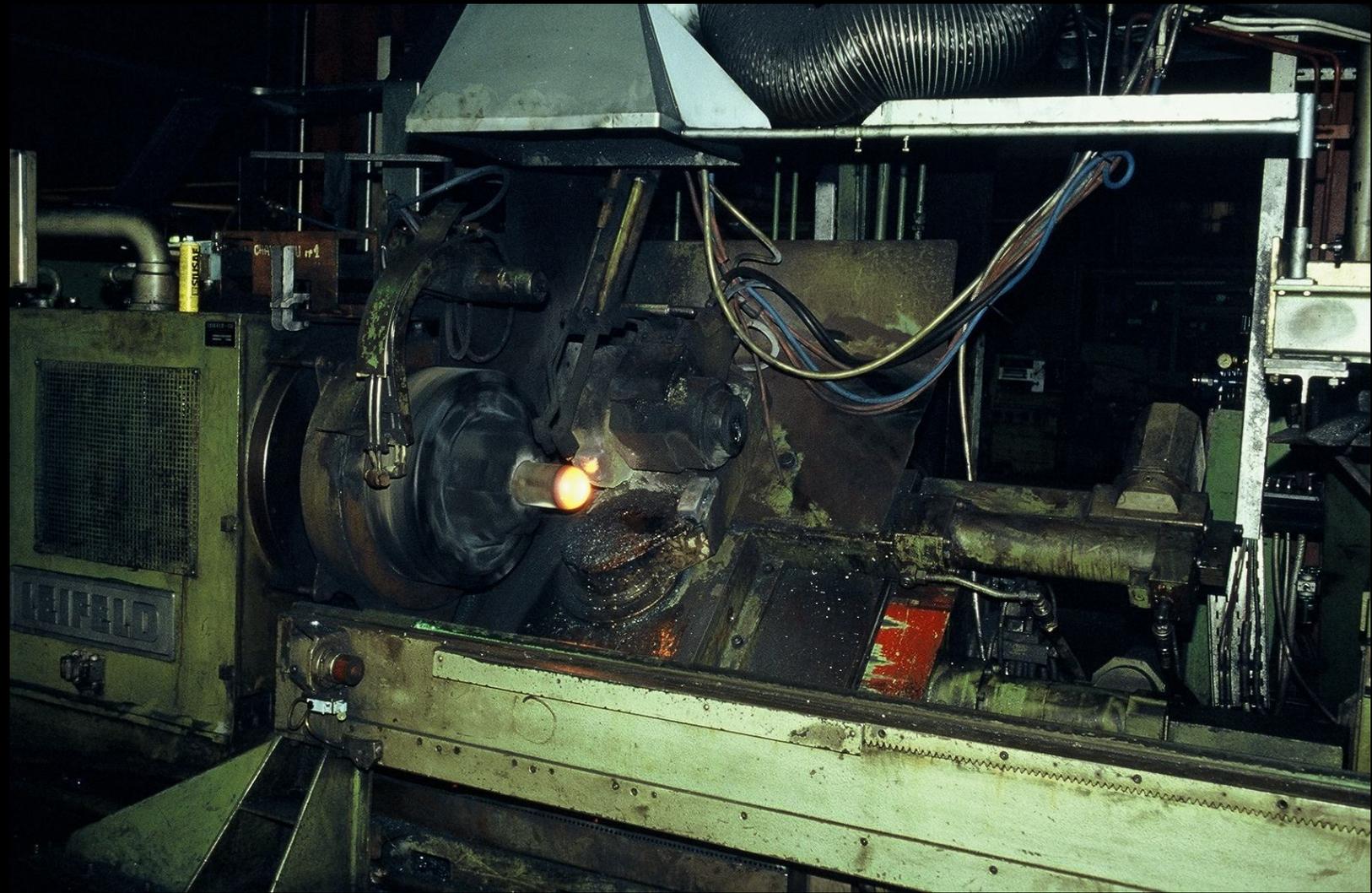




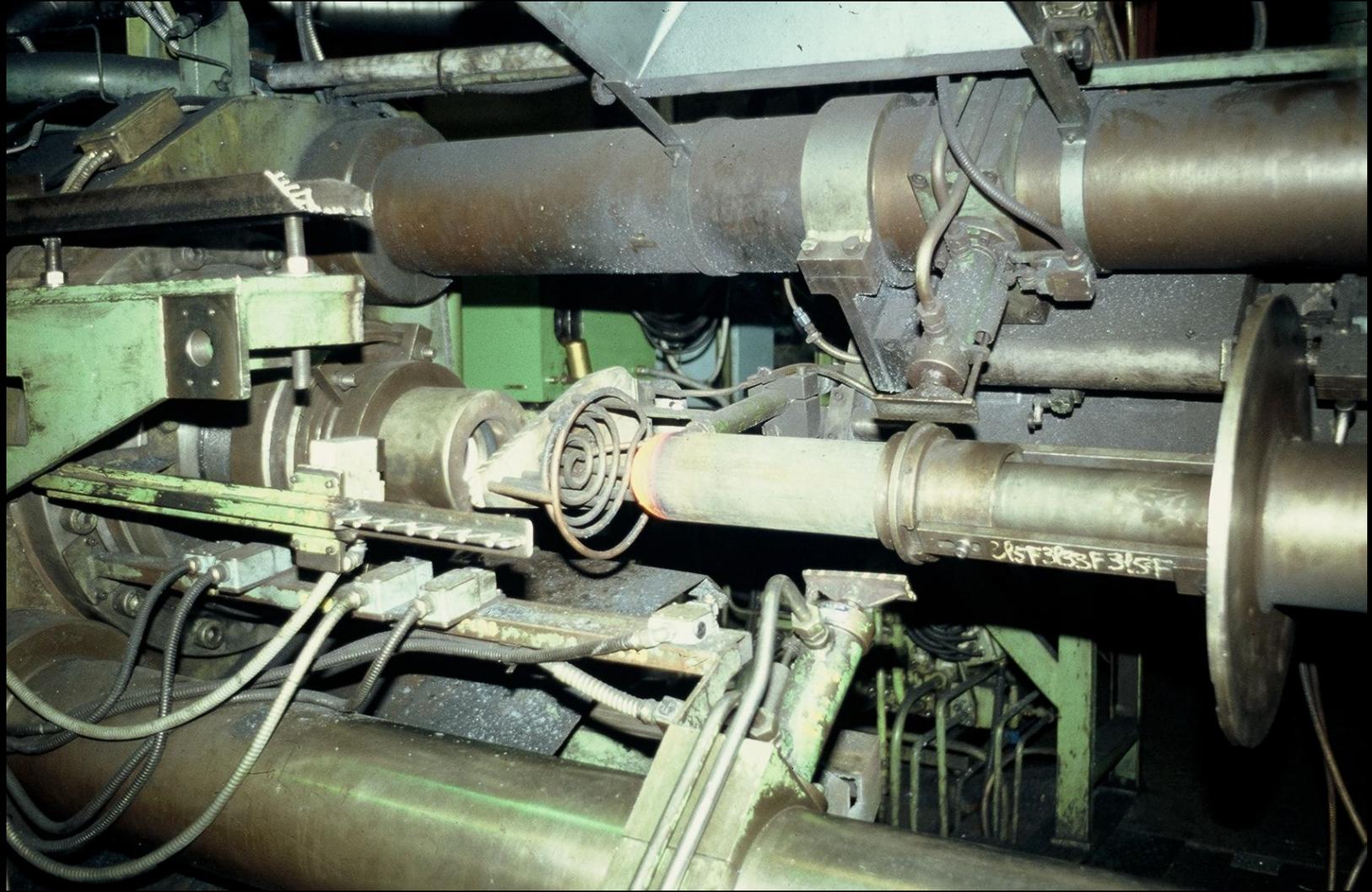


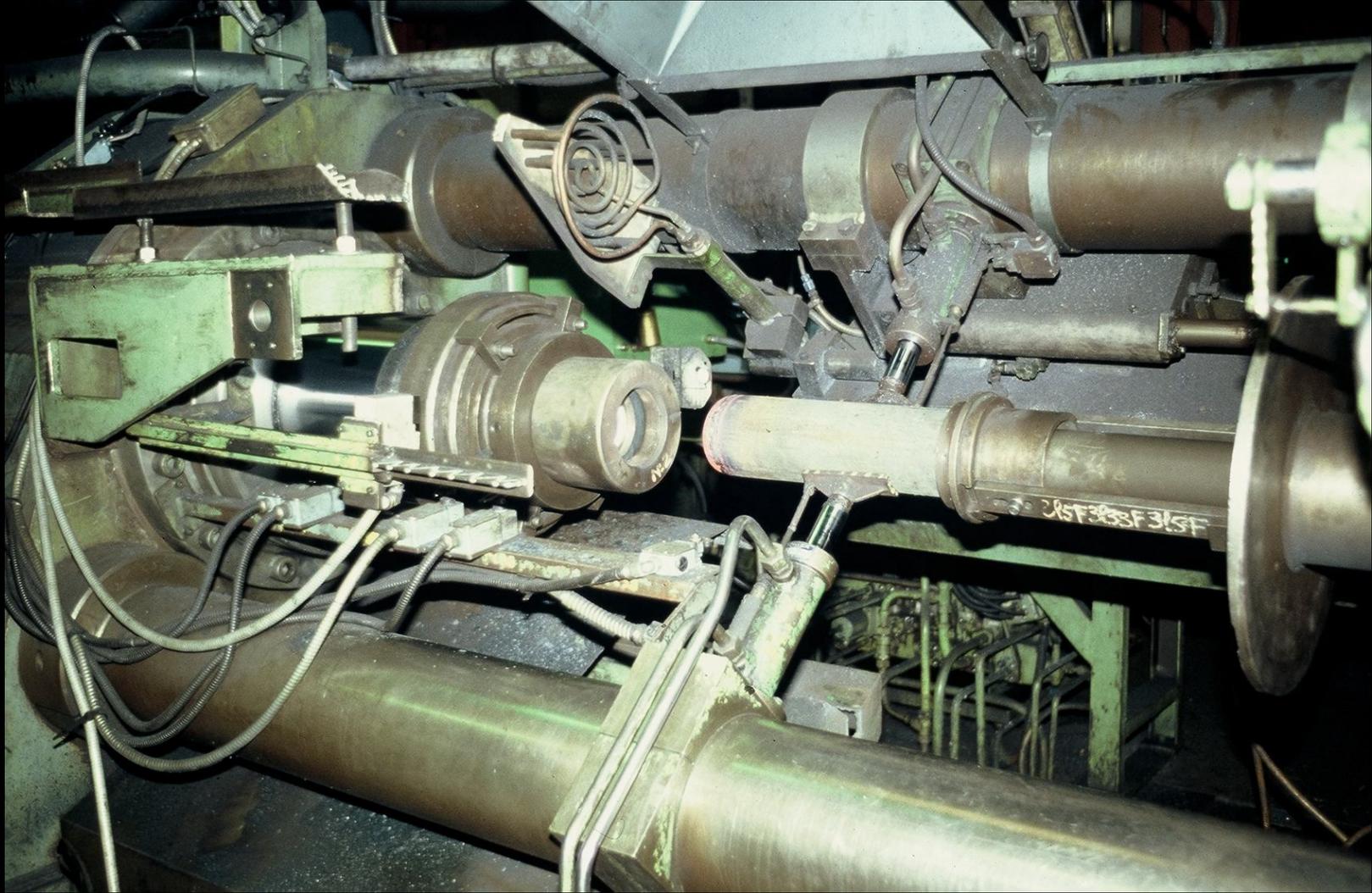








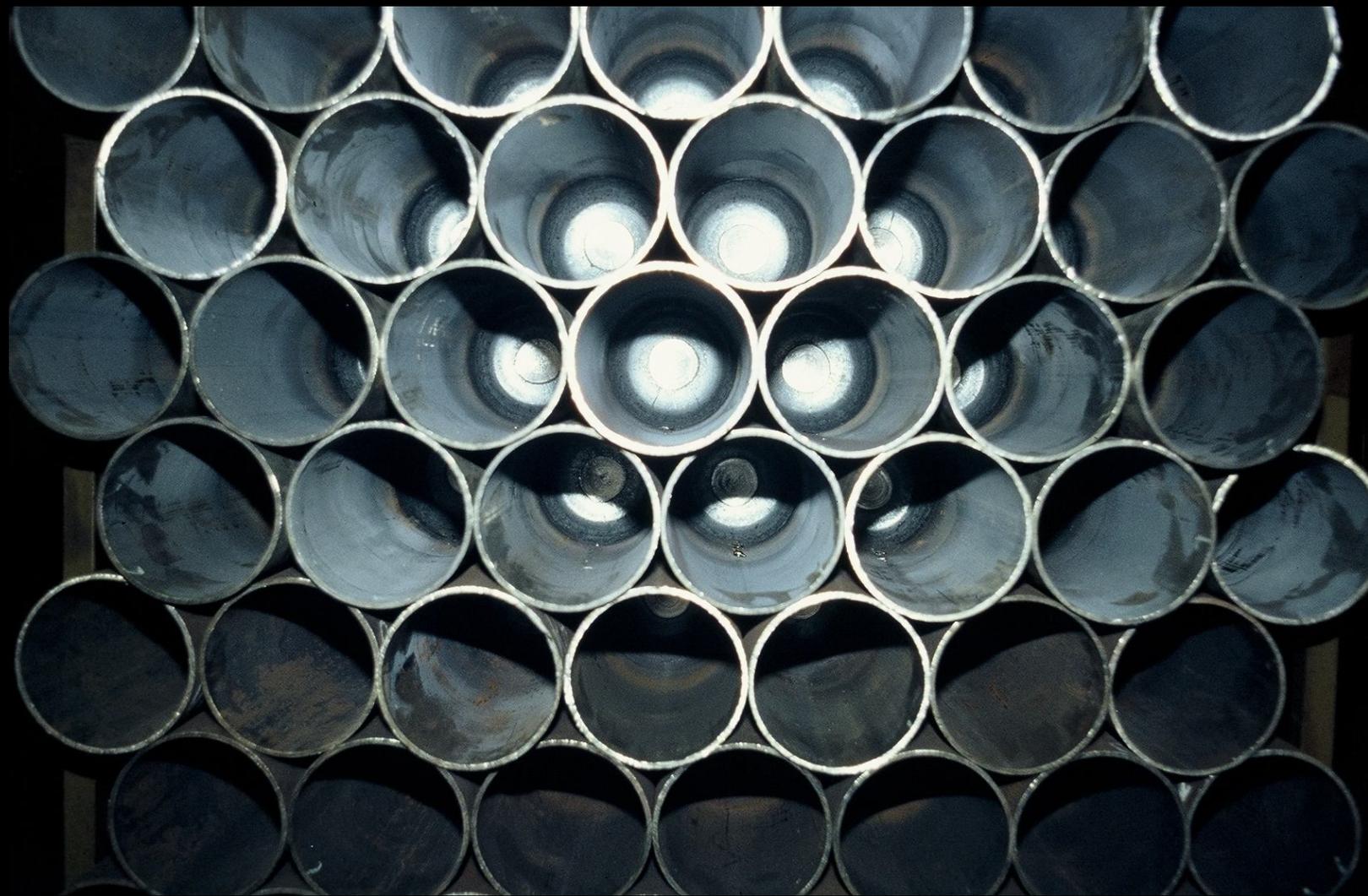


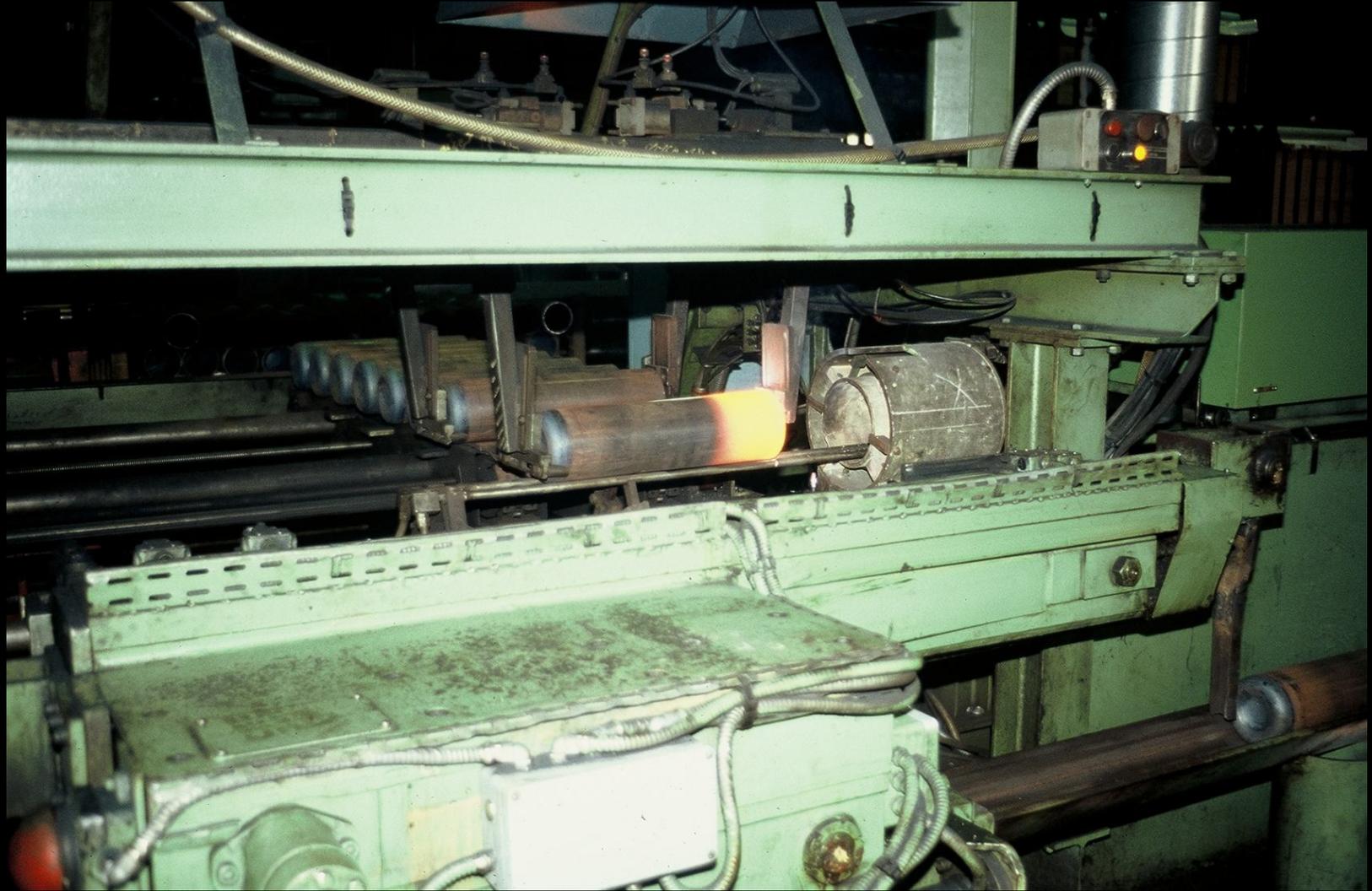


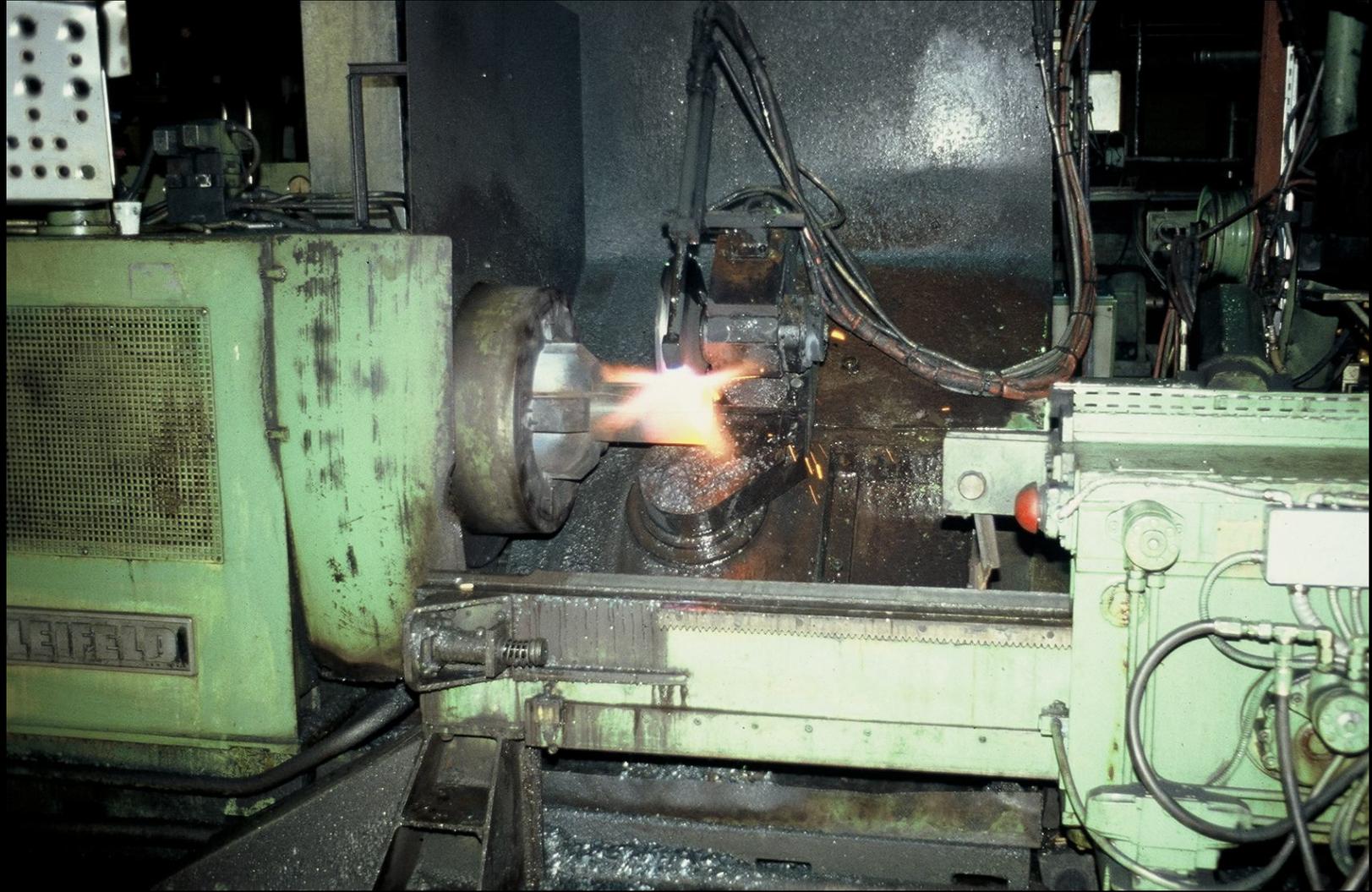


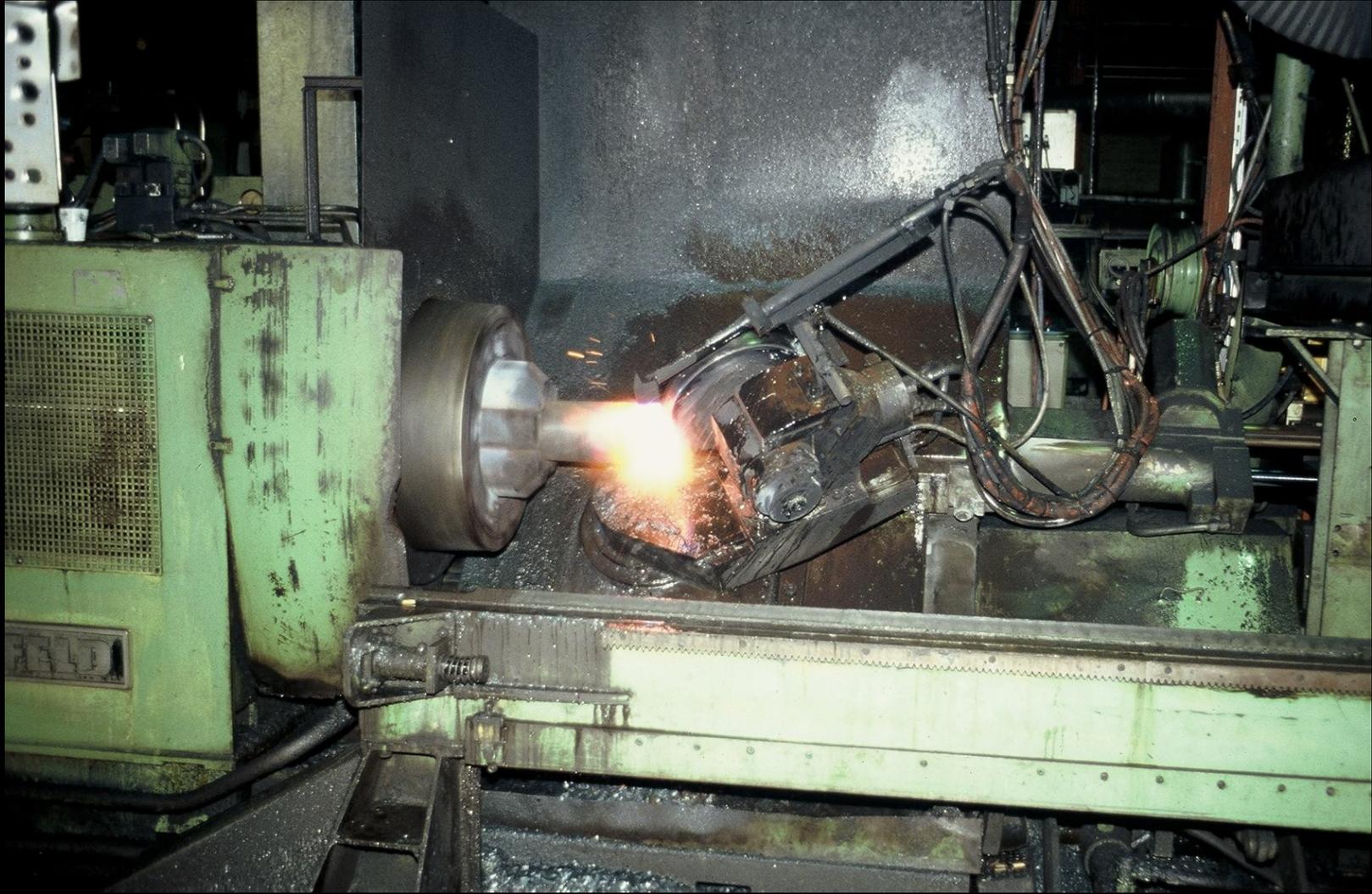


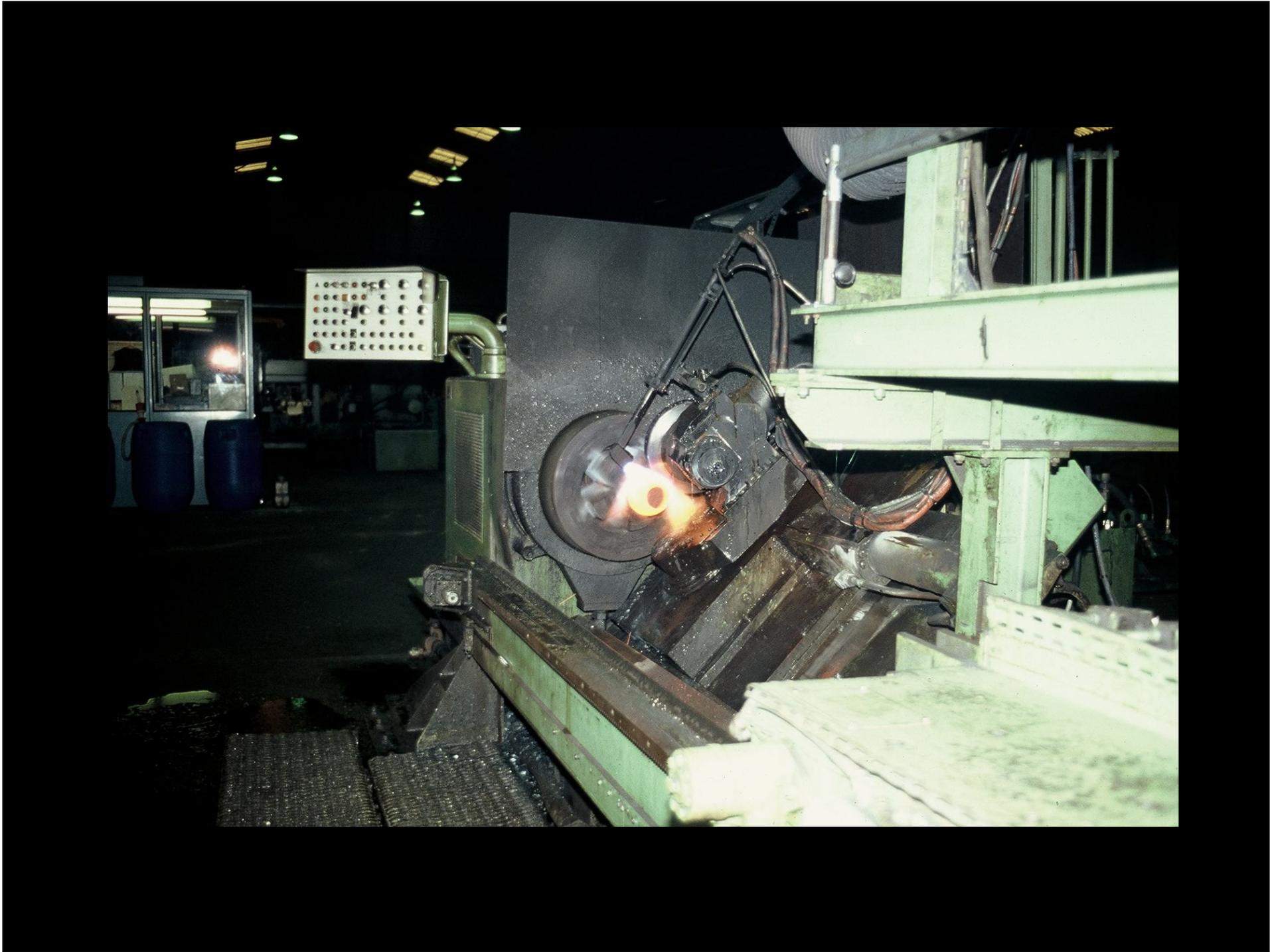






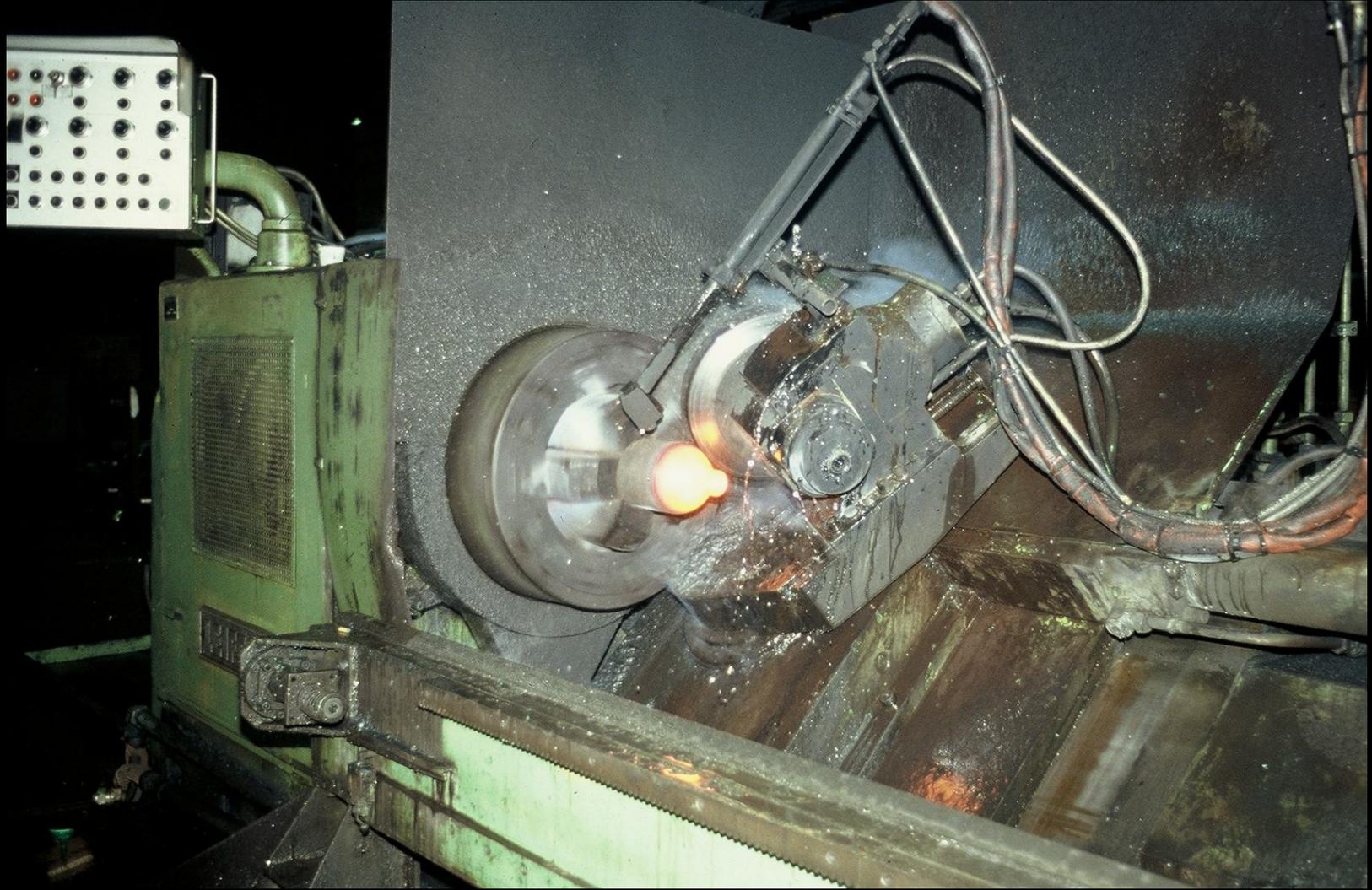


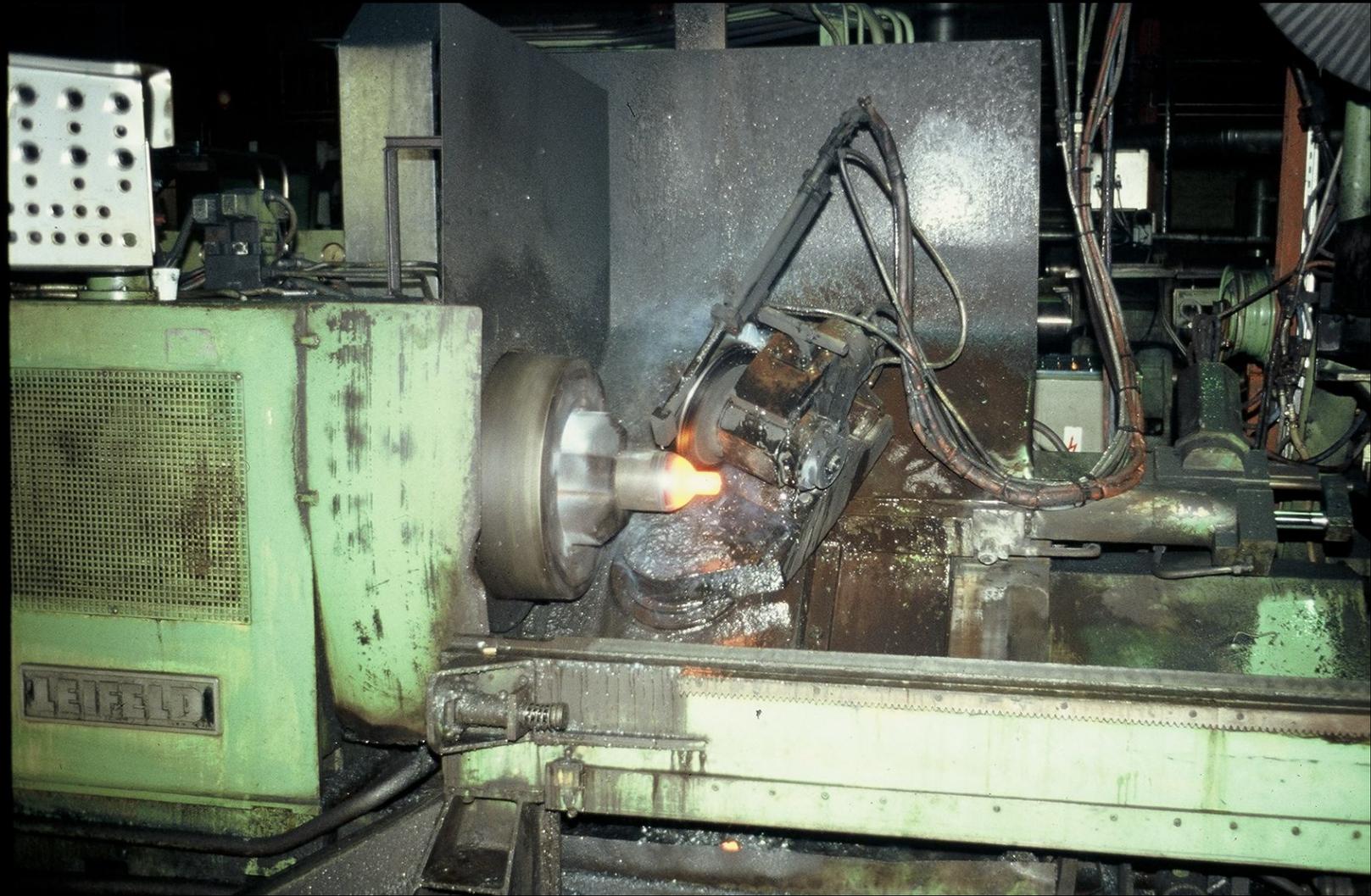


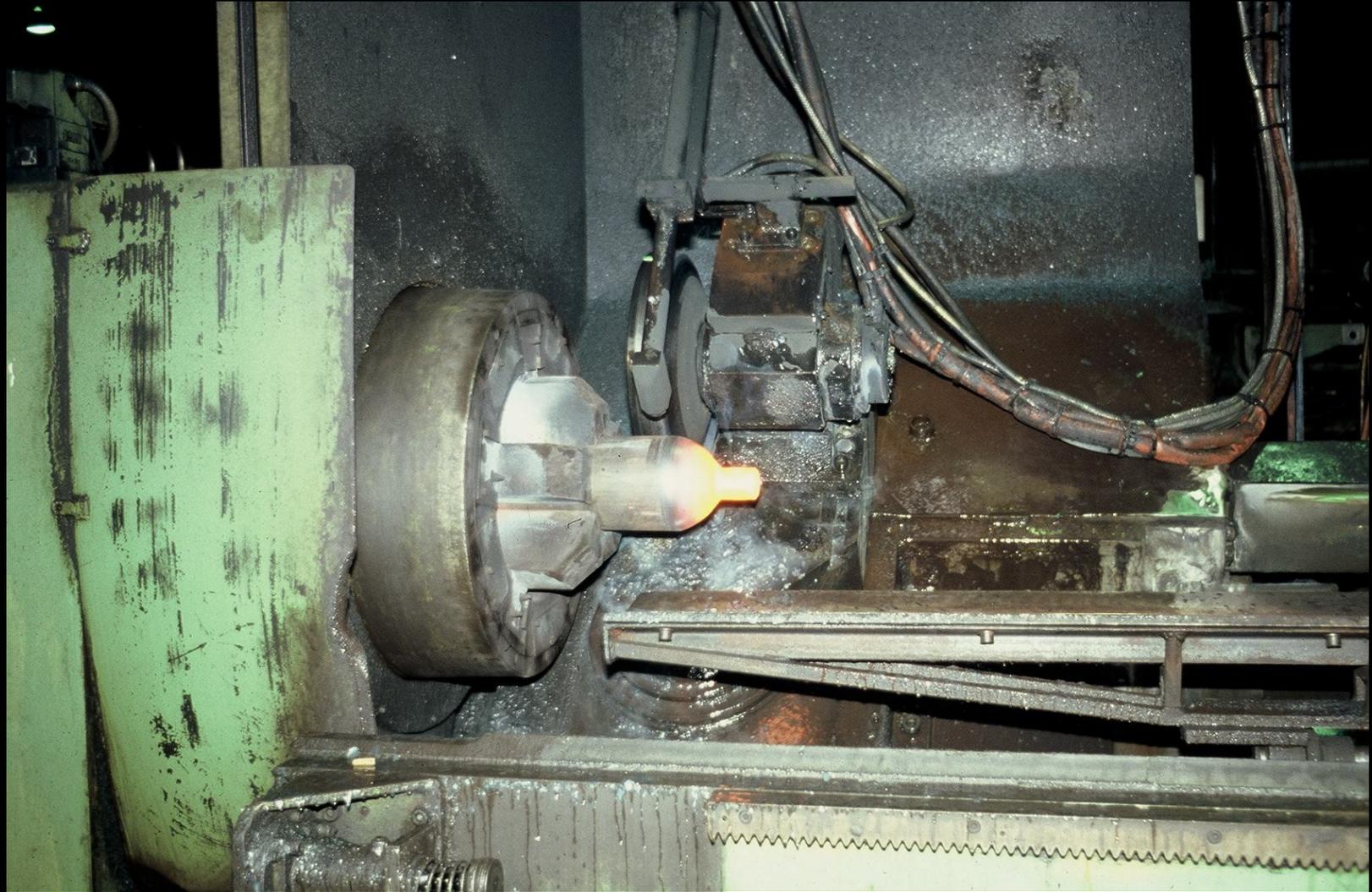










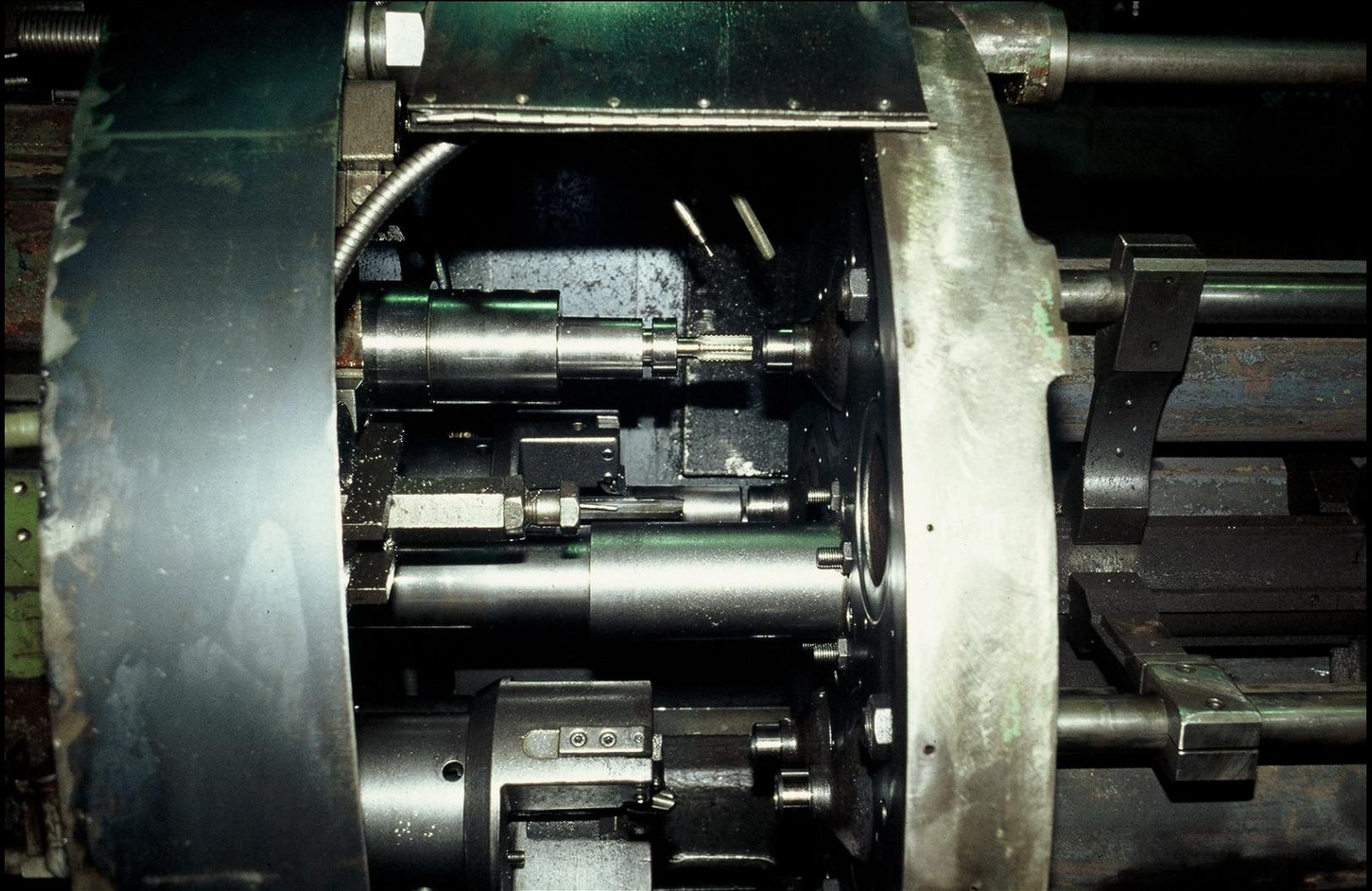














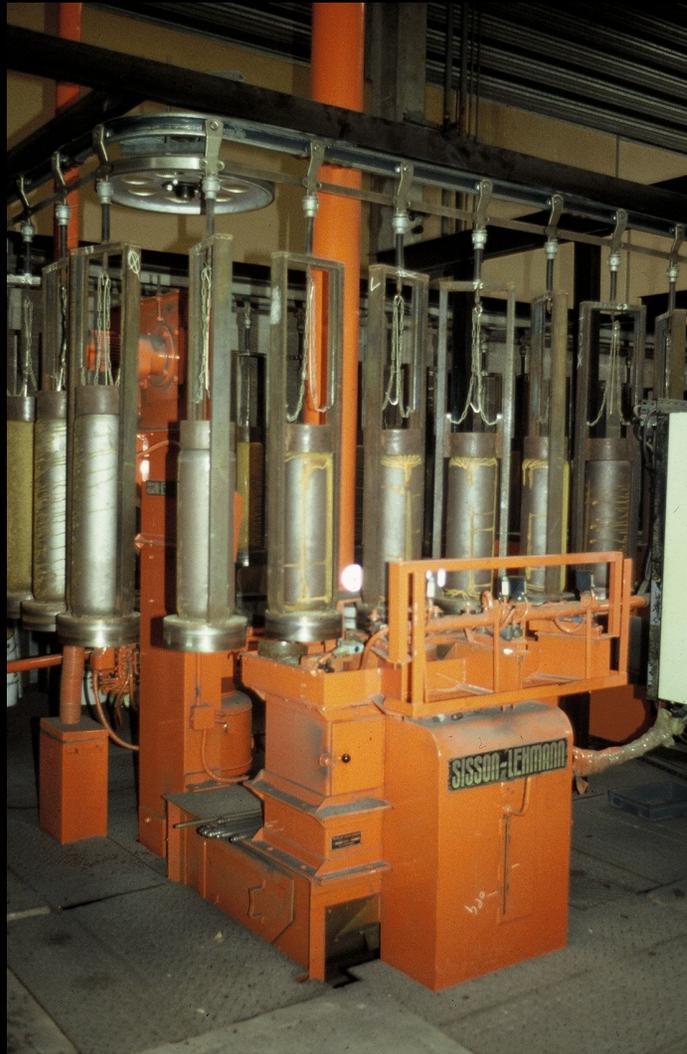








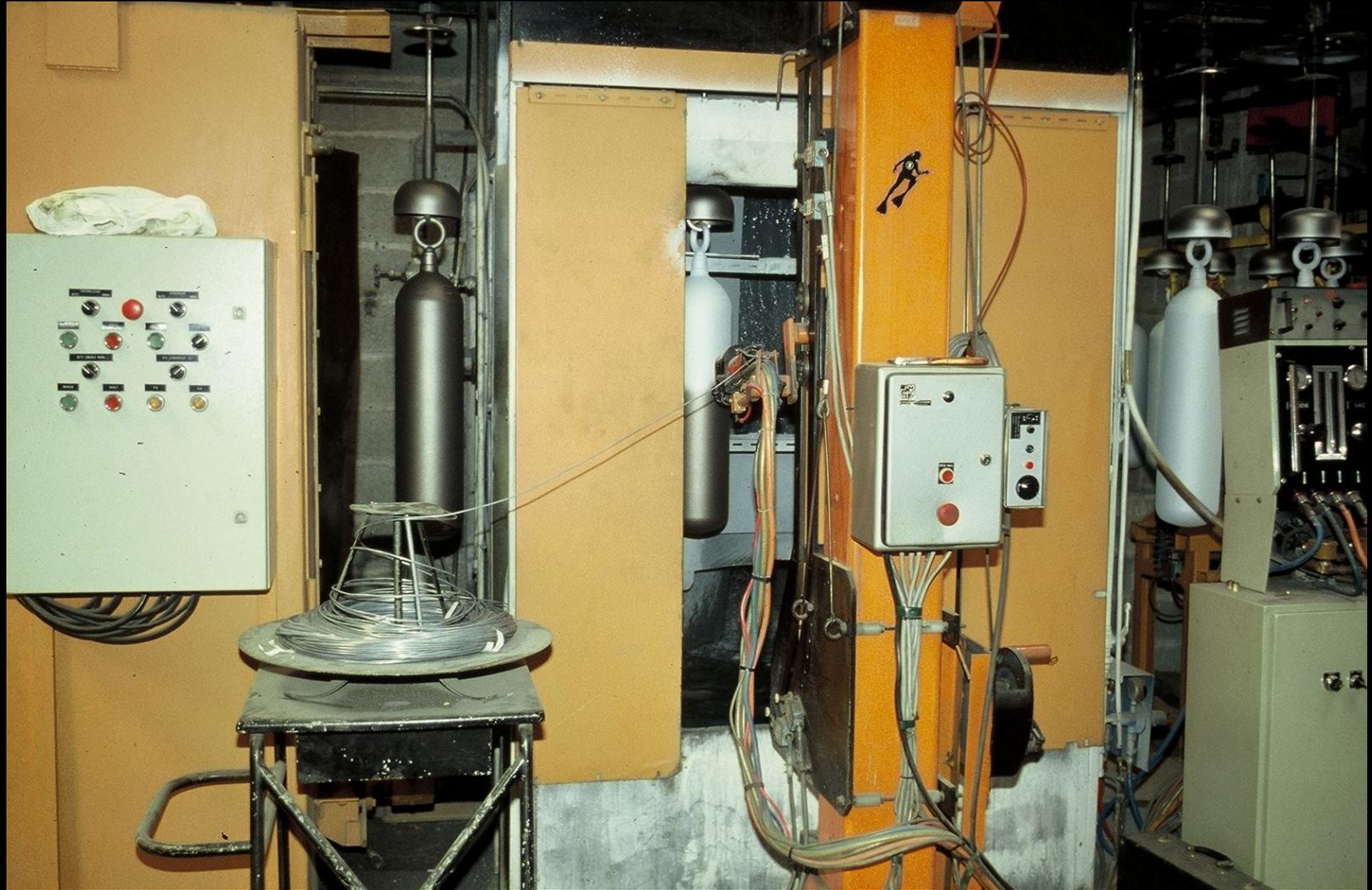


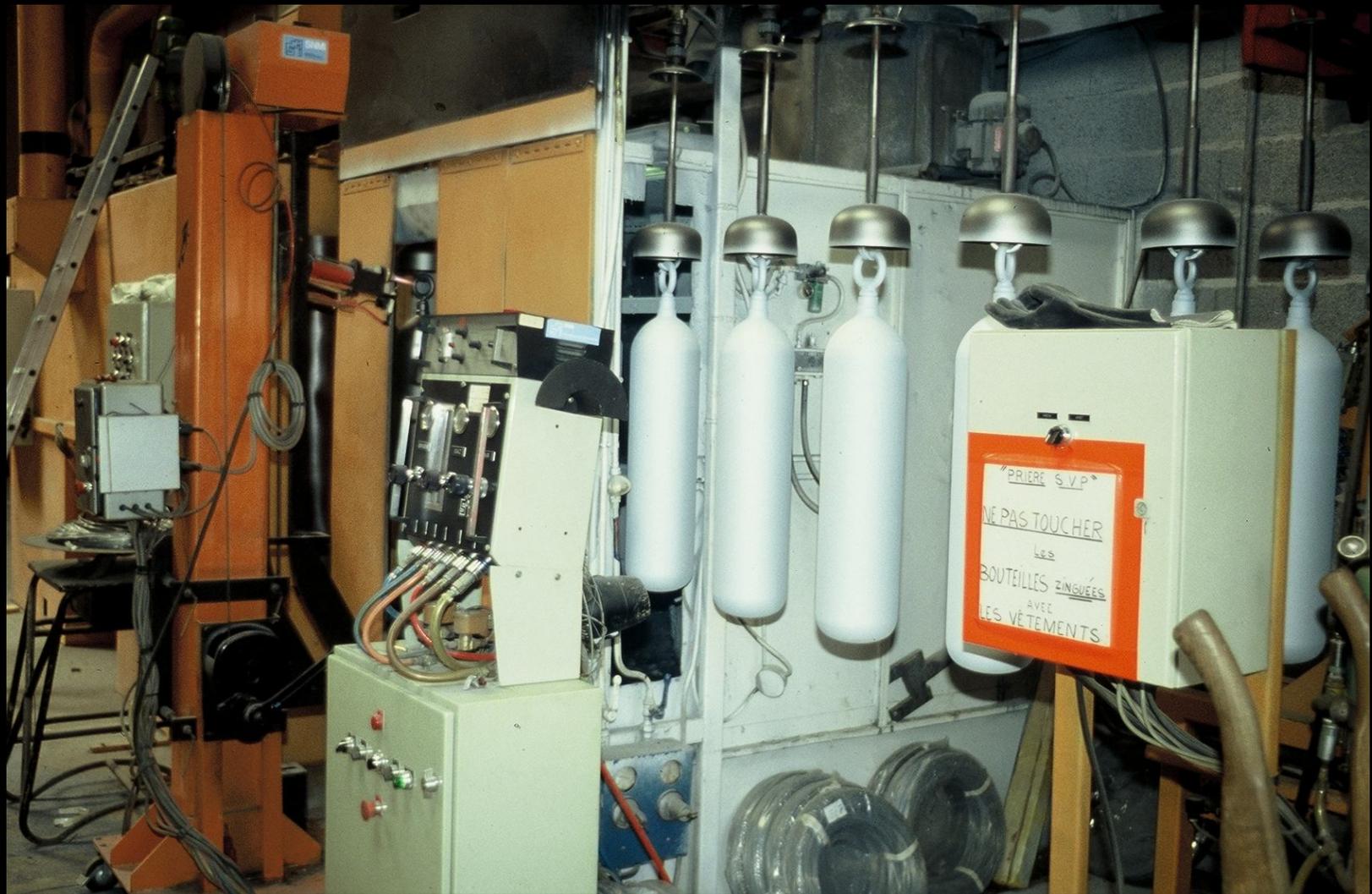








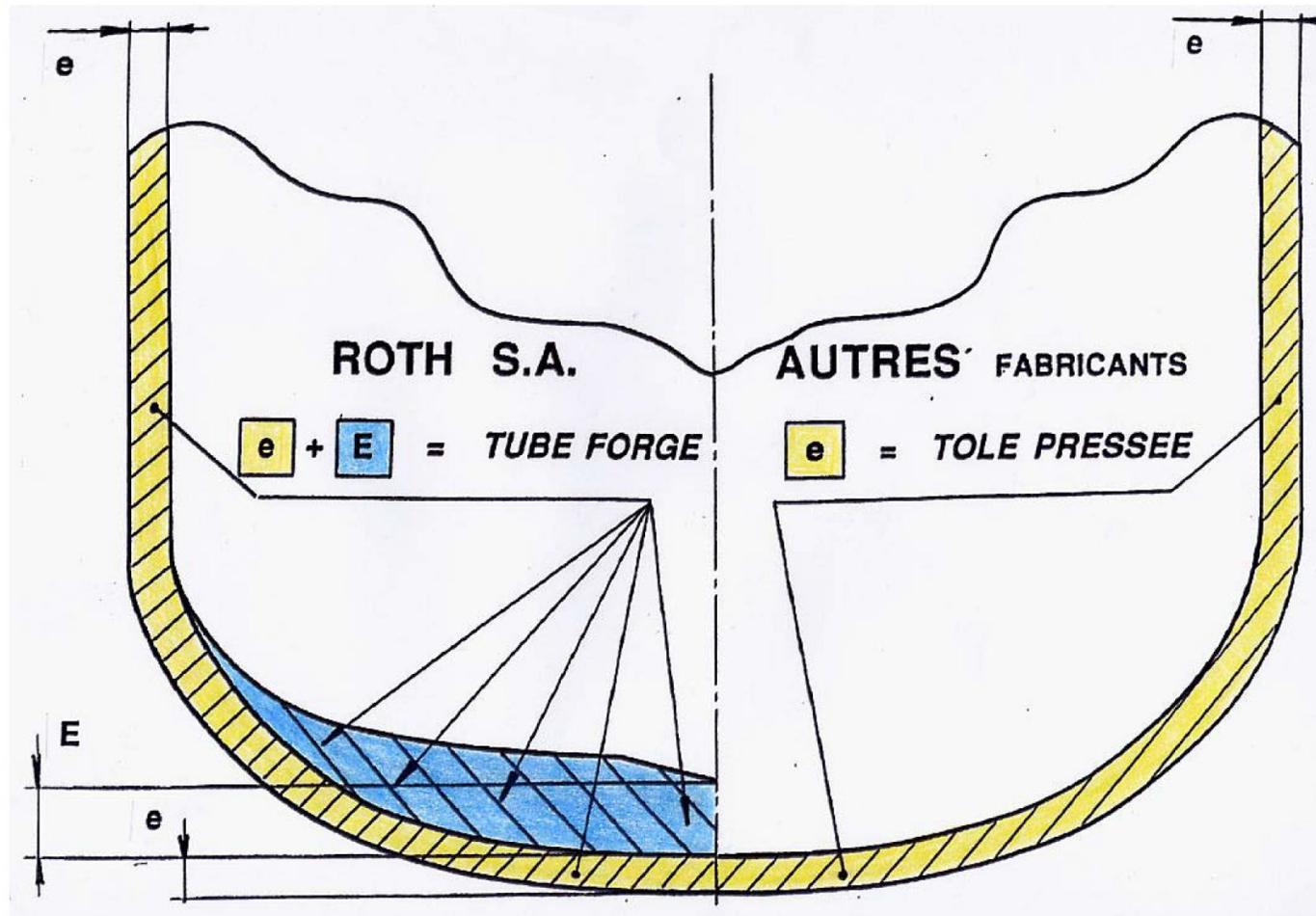












**Sigles des fabricants apposés sur les bouteilles,  
matériau utilisé et provenance**

Roth					
1941 à 1972	1972 à 1974	1975	1976 à 1983	1983 à 1992	Depuis 1992
	ROTH COLOMBES	OLAER MIONS		ROTH MIONS	
France					
<b>Mannesmann</b>	<b>IWKA</b>	<b>Heiser</b>	<b>IWKA</b>		
	<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		

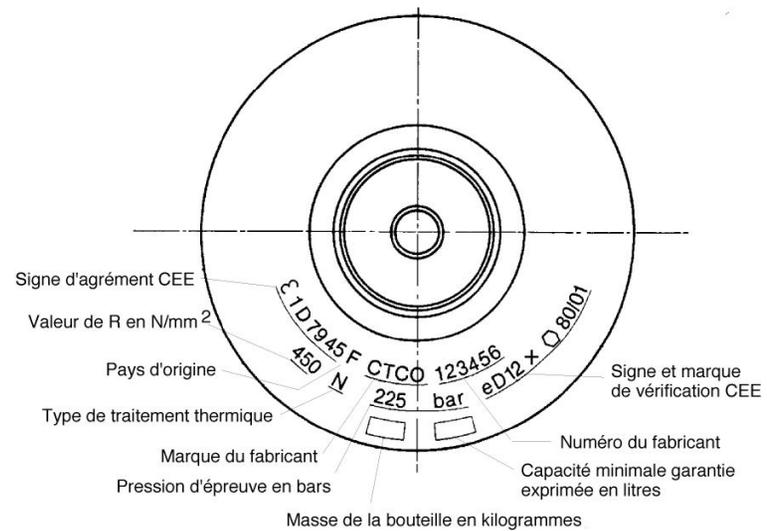
J.P. MONTAGNON - FFESSM



8501PE 2109414 0  MCS 08 50 208354  
345BARTE DOB   
97 3KE Z 12.00

F6

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



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



**FIN**