CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

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EKO, Bitterfeld

1. Bitterfeld produces a number of light metal, heat resistant alloys with a magnesium or aluminum basis. These can be used for the following purposes:

   a. For sand and chilled castings.
   Alloys developed for this purpose are self-hardening, acid resisting, resistant to salt water corrosion and can be age hardened.

   b. For forgings.
   These are of varying strength coefficients, stable at very high temperatures, resistant to salt water corrosion and can be age-hardened and welded.

   c. In the manufacture of pistons, bearings, electricity conductors, rivets, resistances, tubes, sections and free cutting materials ("Automatenwerkstoffe").

2. The following is a complete list of these alloys produced at Bitterfeld:

Mark	Composition	Remarks
A.8	G Mg Al 8	Magnesium alloy for casting
A9V	G Mg Al 9	Magnesium alloy for casting
AM 505	Mg Mn	Magnesium alloy for forging
AM 537	Mg Mn	Magnesium alloy for forging
AZ 31	Mg Al 3	Magnesium alloy for forging

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STATE	X	ARMY	X	NAVY	X	AIR	X	FBI		AEC		ORR Ev	X	OSI Ev	X

(Note: Washington Distribution indicated by "X"; Field Distribution by "#".)

Mark	Composition	Remarks
AZ 31	Mg Al3 = GMgAlZn	Magnesium alloy for casting
AZ 91	GMgAl81 = DMgAl9II	Magnesium alloy for casting
AZ 855	Mg Al 9	Magnesium alloy ductile (Knetbar)
AZD	MgAlZnCdMn	Magnesium alloy, for sheet
AZF	G MgAl 4 Zn	Magnesium alloy for casting
AZG	G MgAl 6 Zn	Magnesium alloy for casting
BD	AlCuMg A	Aluminum alloy deformable (sic)
Bi 400	BiPbShCd	Easily fusible alloy
Bi 480	BiPbShSb	Easily fusible alloy
Bi 490	BiPbShCdSb	Easily fusible alloy
Bi 494	BiPbShCd..	Easily fusible alloy
Bi 880	BiPb..	Easily fusible alloy
DBA	AlMg 9A	Aluminum alloy deformable
F 1	AZG	Magnesium alloy
F 2	AZF	Magnesium alloy
F 3	AZ 31	Magnesium alloy
F 5	V 1	Magnesium alloy
Hy 5	AlMg 5	Aluminum alloy rivet material
Hy 7	AlMg 7	Aluminum alloy rivet material
Igedur	AlCuMg	Aluminum alloy for metal coating
M 1	AZM	Magnesium alloy
M 3	AZ 855	Magnesium alloy, ductile
S Z	Mg Zn Si	Magnesium pressing alloy, malleable (Mag-Preßlegierung, schmiedbar)
V 1 & 1 a	MgAl 9	Magnesium alloy, ductile
Z 1 b	MgZn	Magnesium alloy
Z 3	MgZn	Magnesium alloy for sheets
Hy DBA	AlMg 9 A	Aluminum alloy rivet material

3. The AZ 855 magnesium-aluminum alloy has been specially developed for the East German shipbuilding industry. It is produced in two different compositions as follows:

7% aluminum, 1% zinc, .1% manganese

7.5% aluminum, 1.5% zinc, .1% manganese

4. Neither type when heated to the melting point shows a tendency to separate. Tensile strengths are:

Longitudinal: 30 kg/mm^2 (10% elongation)

Transverse: 25 kg/mm^2 (5% expansion)

5. Production began in January when 7,300 kg were produced. Most of this was used for various tests in the works itself. A similar amount was produced in February, of which half was sent to the Merseburg rolling mill to enable its rolling qualities to be tested.

6. The average monthly output of all types of light metal alloys during the second half of 1952 was 2,100 tons.

Leichtmetallwerk, Rackwitz

7. Leichtmetallwerk, Rackwitz (near Leipzig), is the main producer of light metal alloys in East Germany. Although its aluminum and magnesium are supplied, semi-finished, from Bitterfeld, the works is not a subsidary of Bitterfeld and has developed its own range of alloys independently.

8. The following is a list of alloys produced.

Mark	Description	Remarks
3810	AlNiSiCu	An aluminum forging alloy, Recognition colors: brown, orange, blue.
A 7/I & 7/Ia	MgAlZn	A magnesium alloy
AlCuMgZn-Pr AlCuMgZn-W.	AlCuMgZnSi AlCuMgZnSi	Both of these are aluminum secondary alloys which can be used as transitional alloys ("Übergangslegierungen").
AlSi.20	AlSi	Aluminum alloy
AlZnMg	AlZnMgMn	Aluminum forging alloy Can be used as 'transitional' alloy.
D.Si.Cu	AlSiCuFeMn	Aluminum casting alloy (Gusslegierung). Can be used as transitional alloy
Hmgan A.10 A.12 A.13 A.15	MgAl	Magnesium forging alloy
Hmgan M 1 M 2 M 3	MgMn	Magnesium forging alloy

Mark	Description	Remarks
Enganox		For the preservation of magnesium surfaces
Rackwitz dur. D.39 and Z.39	AlCuMg	Aluminum alloy Aluminum alloy for plating
Si 3	G AlSi 3 Cu2 Mg	Aluminum alloy, deformable
Si 5	G AlSi5 Cul Mg	Aluminum alloy, deformable
Si 5 I	AlSiCuMgFe	Aluminum castings
Si 5 Ia	G AlSi 5, Cul Mg	Aluminum alloy, deformable
Si 6	G AlSi6 Cu 2 Mg	Aluminum alloy, deformable
Si 52	G AlSi5 Cu2 Mg	Aluminum alloy, deformable
Vanalium V 2 E	AlMg 3	Aluminum alloy, deformable
Vanalium V2 & V5	AlMg 5	Aluminum alloy, deformable
Vanalium V5	AlMg5	Aluminum alloy, deformable
Vanalium V5 & V10	AlMg 7	Aluminum alloy, deformable
Vanalium V9 & V10	AlMg 9	Aluminum alloy, deformable

9. Rackwitz also produced Elektron (magnesium or magnesium alloy) and hydronalium. Output of hydronalium averages 1,250 tons per month. The entire output of Elektron is exported to Czechoslovakia according to designs supplied from Prague.

10. The output of light metal alloys other than Elektron and hydronalium averages 1,000 tons per month.