

資料室だより

BISI Translation 紹介

— No 24 —

BISI Translation の特長

英国鉄鋼業界, BISRA および英国鉄鋼協会は共同で BISI を運営しています。この BISI は BISI Translations を発行しています。BISI Translations は世界各国 (英米語を使用する以外の国) の主要鉄鋼技術誌および学術誌のうち主要論文を全文英訳したものです。これらの論文は, 世界各国が発刊する多数の Journals から選択されており, 鉄鋼関係の研究者向けの論文を網羅しています。

またこの翻訳論文の刊行準備のできたものの Title, Abstract および出典について Translations Available (Weekly) が刊行されたり, また Journal of The Iron and Steel Institute に掲載され, 事前にどんな論文が出るかわかるようになっていきます。

BISI Translations を利用すれば英国米国, 以外の主要製鉄国の主要論文をきわめて容易に知ることが可能で, これによる時間的利得は非常に大きいと考えられます。

資料委員会では 1965 年より業界の協力のもとに共同購入してまいりました。

次に列記いたしました Title は最近入手したものです。複写は禁止されておりますので閲覧のみに限ります。

なお, 今回から Group の仕方が少し変わりましたのでご了承下さい。"資料室だより" の別刷ご希望の方は本会調査課までご連絡下さい。無料でさし上げます。Tel. (279) 6021

(BISI Translations List No 586~590)

Management Planning and Control

BISI 9406 (W. Beler)

Process control with small computers. [Neue Hutte, 1971, 16, Mar. 129-134] (G)

BISI 9587 (A. Oberhofer and H. Potzl)

Simulation model as a basic for planning a heavy platemill. [Stahl Eisen., 1970, (24), 1390-1399] (G)

BISI 9528 (V. Kafka and Z. Buzek.)

Applying the production cost computation method to an actual arc furnace steel heat. [Hutn. Listy., 1971, (2), 96-101] (Cz)

BISI 9734 (H. Setzer)

Material flow constns in bright drawing plants. [Stahl Eisen., 1971, June 24, 771-773] (G)

Physical Structure of Materials and

Crystallography

BISI 8180 (K. Lucke)

Examples of the use of a three-dimensional orientation space for the investigation and representation of orientation distributions.

[Proceedings of the International Conference on Textures, Tech. University, Clausthal Zellerfeld, Springer Verlag, Berlin, 1969, 36-50] (G)

BISI 9722 (M. Hugo, et al.)

Study of the hot forming capacity of structural steels containing tellurium. [Rev. Met., 1971, June, 397-409] (F)

BISI 9742 (Ya. D. Vishnyakov & G. S. Fainshtein)

Effect of variations of composition and temperature on the energy of stacking defects in ferromagnetic alloys'. [IZV. VUZ. Chern. Met., 1971, (7), 122-126] (R)

BISI 9323 (V. Moldovan)

Contribution to the problem of high-speed plastic

deformation of metals. [Studii si cercetari Metalurgice, 1970, 15, (2), 193-207] (Rum.)

BISI 9669 (I. N. Bogachev, et al.)

Features of cavitation fracture in refractory metals and alloys. [Izv. VUZ. Chern. Met., 1971, (6), 111-116] (R)

BISI 9325 (D. D. Cioclov)

Cumulative degradation of metals by repeated straining present state of researches. [Studii Cerc. Met., 1970, 15, 20, 231-248] (Rum.)

Physical Metallurgy and Metallography

BISI 9527 (F. Kralik and Z. Kiralyova)

Thermodynamic analysis of <Fe-Cr> solid solution. [Kovove Mat, 1970, (5), 413-418] (Cz)

BISI 9664 (M. S. Petrushevtkii & P. V. Gel'd)

The effect of short-range order on the solubility of nitrogen in liquid Fe-Ni-Co alloy. [Izv. VUZ. Chern. Met., 1971, (6), 8-11] (R)

BISI 9177 (K. G. Schmitt-Thomas and Woitschek)

Fractography and its role in failure analysis. [Z. Metallk., 1970, 61, (12), 955-963] (G)

Physical Properties and Chemical Analysis

BISI 9414 (W. A. Fischer and D. Janke)

Solid electrolyte cells with gaseous reference electrodes for measuring oxygen activity in iron melts. [Arch. Eisenh., 1970, 41, Nov., 1027-1033] (G)

BISI 9672 (A. S. Andrianov & V. S. Gudynovich)

Assessing the quality of cast surfaces. [Izv. VUZ. Chern. Met., 1971, (6), 145-147] (R)

BISI 8707 (T. N. Shadlun)

A combined X-ray and microspectrographic determination of small mineral grains in ore. [N. Jb. Min. Abh., 1965, 102, (2), 115-122] (G)

BISI 9587 (A. Oberhofer and H. Potzl)

Simulation model as a basic for planning a

heavy platemill. [Stahl Eisen., 1970, 90, (24), 1390-1399] (G)

Mechanical Properties and Material Defects

BISI 9786 (A. G. Rabinovich, et al.)

The effect of melting practice on the amount of non-metallic inclusions in the metal of a boiling open hearth bath. [Stal', 1971, (8), 711-714] (R)

BISI 9231 (B. Sommer)

Factors affecting internal inhomogeneities in forging ingots. [Hutn. Listy, 1970, (11), 777-782] (Cz)

BISI 9407 (R. Hofmann and B. Illschner)

Comparison of high-temperature creep of some homogeneous iron- and nickel-base alloys. [Z. Metallk., 1970, 61, 942-946] (G)

Corrosion and Corrosion Testing

BISI 9391 (A. Rahmel and J. A. Gonzalez)

The oxidation of iron at 700-900°C in CO/CO₂ mixtures small additions of COS, SO₂ and H₂S. [Werkstoff Korr., 1970, 21, 925-934] (G)

BISI 9118 (R. Bartonicek, et al.)

Problems of corrosion protection in chemical equipment. [Strojirenstvi, 1970, 20, (11), 659-662] (Cz)

Protection of Materials

BISI 9489 (W. Beckerling et al.)

Continuous coating thickness control on tin-coated steel strip during production process. [Hoesch Ber. Forschung & Entwicklungunserer Werke, 1970, 6 (1)] (G)

BISI 9706 (C. Leuschke)

Coatings with powder for sintering by the fluidized-bed process. [Trattamenti i Finitura, 1969, Apr., 52-54] (I)

BISI 9711 (B. I. Chapurin, et al.)

Study of the possibility of using epoxy compositions with metaphenylene-diamine curing as protective coatings in the food industry. [Continental Painta and Resin News, 1969, (4), 43-46] (R)

BISI 9709 (F. Heck)

A new process for the fusion bonding of deposits of tin, tin-lead, cadmium and other soft solder alloys. [Corrosion Week Budapest Conf. 1970, 5, (158) 253-262] (Hugg)

Rolling

BISI 9475 (G. Vieregge)

Ring forge layout and design with particular reference to the ring rolling process. [Stahl Eisen., 1971, 91, May 13, 563-572] (G)

BISI 9660 (I. S. Trishevskii et al.)

Features of the pass design of rolls for sections with periodically repeating corrugations. [Stal', 1971, (6), 523-526] (R)

BISI 9332 (V. Smid)

Final stage conditions in hot rolling and coiling of high carbon strip steels. [Hutnik, 1971, 20, (1), 15-18] (Cz)

BISI 9741 (Yu. D. Zheleznov & A. G. Ablev)

Regulation of the transverse thickness variation of thin sheet. [Izv. VUZ. Chern. Met., 1971,

(7), 90-95] (Ru)

BISI 9747 (N. M. Khoroshilov)

Reduction of the thickness variation in bi-metallic sheets. [Stal', 1971, (7), 632-633] (R)

BISI 9232 (Z. Zamyslovsky & J. Uherek)

Defining the optimum procedure-in rolling slabs under laboratory and field conditions. [Hutn. Listy, 1970, (11), 783-790] (H)

BISI 9449 (A. Nowakowski)

The parameters for rolling steel in symmetrically open box passes. [Z. N. A. G. H., 1970, 38, (267), 101-117] (Pol.)

BIPI 9512 (J. Bouvard)

Operating results from a heavy plate mill. [CDS Circ., 1970, 27, (6), 1537-1545] (F)

BISI 9627 (M. Vater and A. Schutza)

The course of deformation in solid sections during hot rolling in roll passes. [Arch. Eisenh., 1971, July, 459-467] (G)

BISI 9755 (W. Esche, et al.)

Production of high tensile steel with a low carbon equivalent on a wide hot strip mill. [Hoesch. Ber. 1971, (3), 110-114] (G)

Metalworking, Excluding Rolling

BISI 9193 (R. Rosenfeld)

Particle size of powder iron pentacarbonyl. [Sbornik VSB Ostrava, 1968, 5, 91-104] (Cz)

BISI 9748 (M. F. Stoletni)

Economically suitable tension schedule for tube reduction. [Stal', 1971, (7), 636-639] (R)

BISI 9628 (W. Schultze)

The production of winged tubes using the steel extrusion process. [Klepzing Fachber., 1970, 78, (11), 171-173] (G)

BISI 9623 (Anon)

Chip assesment. [German Specification Test Sheet 1178-69] (G)

Steel and Alloys (Technical Applications and Methods of Production), Cermets

BISI 9409 (S. Gunnarson)

Machinability of a case hardening steel. [Harterei-Techn. Mitt., 1970, 25, 266-270] (G)

BISI 9539 (Z. Pesek)

Classification of surface roughness of deep-drawing steel sheet. [Strojirenstvi, 1971, (1), 46-47] (Cz)

BISI 9663 (L. M. Zimina. et al.)

Structure and properties of nickel base alloy EP 487 melted by different methods. [Stal', 1971, (6), 547-549] (R)

BISI 9535 (O. Bohusova & K. Mazanec)

Establishing the plastic properties of low alloy weldable structural steel. [Hutn. Listy, 1971, (1), 42-50] (Cz)

Casting and Cast Metals

BISI 9633 (K. F. Granitzki)

Investigation into the possibility of re-using waterglassbonded core blask sand, as additional new sand in sythetic moulding sand. [Giesserei Tech.-Wissen Beih., 1965, 117, Jan 1-16] (G)

BISI 9776 (Yu. N. Yakovlev)

Effects of the shape of the channel in a steel

teeming nozzle and of the stopper on the coefficient of rate of flow. [Izv. VUZ. Chern. Met., 1971, (8), 53-8] (R)

BISI 9180 (L. Salonen & M. Solonen)

Influence of alloying elements on the carbon and nitrogen content of carbonitride case-hardening steels'. [Harterei-Techn. Mitt., 1970, 25, 161-164] (G)

BISI 9535 (O. Bohusova & K. Mazanec)

Establishing the plastic properties of low alloy weldable structural steel. [Hutn. Listy, 1971, (1), 42-50] (Cz)

Heat Treatment

BISI 9238 (A. Hrivnak)

Strain aging of deep-drawing steel sheets after biaxial tensile loading. [Kovove Mat., 1970, (4), 402-409] (Cz)

BISI 9519 (N. Popescu and C. Dumitrescu)

Investigation regarding high tempering behaviour of 40 C10 and 40 BC 10 steels. [Metalurgia, 1970, (12), 761-766] (Rum)

Heating, Heating Furnaces and Electric Heating

BISI 9390 (H. Fiedler and G. Scharf)

State and development of special melting techniques in the production of high-grade and alloy steels. [Neue Hutte, 1970, 15, 644-652] (G)

BISI 9674 (B. E. Paton, et al.)

Plasma arc furnaces with water-cooled copper moulds. [Stahl', 1971, (6), 507-511] (R)

Fuel, Combustion and Refractories

BISI 9389 (M. Zoglmayr)

Magnesite linings for oxygen converters. [CDS Circ., 1970, (5), 1273-83] (F)

BISI 9235 (M. Kepka and L. Zapletal)

Mechanism of corrosion and erosion of the acid rammed lining in teeming ladles. [Hutn. Listy., 1970, (12), 845-849] (Cz)

BISI 9785 (A. M. Rozenfel'd and Yu. N. Tuluevskii)

Investigation of a neutron sensor for the sensor for the parameters of skip coke. [Izv. VUZ. Chern. Met., 1971, (8), 171-174] (R)

Welding and Joining

BISI 9482 (G. Seidel)

Flash butt welding of strip. [Stahl Eisen., 1971, 91, (11), 624-628] (G)

BISI 9237 (K. Stransky)

Decarburization in welded joints of steels with different carbon activities. [Kovové Mat., 1970, (4), 301-320] (Cz)

BISI 9240 (I. Hrivnak)

Weldability of steels and electroslag welding. [Zvaranie, 1970, (12), 361-365] (Cz)

BISI 9228 (J. Sobotka and T. Prnka)

Heat resisting properties of weld metals deposited by the electrodes for welding of the class 15 steels. [Strojirenstvi, 1970, (12), 13-24] (Cz)

Ores and Minerals Handling and Beneficiation

BISI 9239 (V. Mihalik)

Some pelletizing characteristics of carbonate iron-concentrates. [Rudy, 1970, (11), 378-381] (Cz)

BISI 9506 (M. Carignani)

Increasing sintering process productivity by using lime in place of limestone. [Met. Ital., 1970, 62, (8), 307] (I)

BISI 9233 (M. Karbusicky and H. Lvova)

Intensified sintering of siderite concentrate. [Hutn. Listy, 1970, 12, 837-840] (Cr)

BISI 9387 (M. Kowalewski)

Mechanism of moisture distribution in the sintering process. [Prace Inst. Hutn. 1970, 22, (1), 3-13] (Hung.)

BISI 9737 (E. F. Vegman, et al.)

Sintering process indices with the use of fuel made from gas coals. [Izv. VUZ. Chern. Met., 1971, (7), 20-22] (R)

BISI 9234 (J. Hancl and R. Scholz)

Dependence of ferrous oxide in sinter on technological conditions. [Hutn. Listy, 1970, 12, 841-844] (Cz)

BISI 9279 (S. P. Efimov and G. G. Efimenko)

Influence of fuel particle size on the sintering process and sinter quality. [Izv. VUZ. Chern. Met., 1970, (9), 21] (R)

BISI 9359 (K. D. Haverkamp, et al.)

The effect of hot return screening on operating results from a sinter plant. [Sbornik VZKG 4th International Conference on Ironmaking, Ostrava, 1970, 17-20 th November] (Cz)

Ironmaking and Ferro-Alloys

BISI 9784 (A. D. Tankin, et al.)

Influence of the shape and dimensions of the contact between the bell and hopper of charging gear on their wear'. [Stal', 1971, (8), 693-695] (R)

BISI 9788 (V. A. Kravchenko, et al.)

Production of ferrosilicocalcium by the continuous singlestage carbon reduction process in large capacity electric furnaces. [Stal', 1971, (8), 724-725] (R)

BISI 9278 (A. N. Chernyatin)

Interrelation between the degree of direct reduction and the consumption of fuel in a blast furnace. [Izv. VUZ. Chern. Met., 1970, (8), 28] (R)

BISI 9531 (M. Prouza)

How the control of the blast furnace mechanism affects the specific consumption of coke. [Hutn. Listy., 1971, (1), 1-6] (Cz)

BISI 9738 (N. Pokhvisnew and V. M. Klempert)

Theoretical calculation of stock voidage down the blast furnace. [Izv. VUZ. Chern. Met., 1971, (7), 25-27] (R)

BISI 9518 (I. Dumitrascu et al.)

Mathematical model and computer-controlled programme for blast furnaces with complex charge and methane and oxygen injection in the hot blast. [Metalurgia, 1970, 22, (12), 756-760] (Rum)

Steelmaking

BISI 9739 (E. F. Vegman, et al.)

Sintering process indices with the use of fuel made from gas coals. [Izv. VUZ. Chern. Met., 1971, (7), 20-22] (R)

BISI 9785 (A. M. Rozenfel'd and Yu. N. Tuluevskii)
Control of the coefficient of excess air in OH
furnaces according to the composition of the
combustion product. [Stal', 1971, (8), 707-711]
(R)

Extraction and Refining

BISI 9755 (W. Esche, et al.)
Production of high tensile steel with a low
carbon equivalent on a wide hot strip mill.
[Hoersch. Ber., 1971, (3), 110-114] (G)
BISI 9192 (T. Myslivec & A. Smrhova)
On the effect of aluminium and titanium on
the nitridenitrogen content of steels. [Sbornik
VSB Ostrava, 1968, (5), 37-46] (Cz)
BISI 9327 (M. Kepka and Z. Kletecka)
On the argon refining of molten metals.
[Slevarenstvi, 1970, (12), 500-502] (Cz)
BISI 9504 (H. Margot-Marette & P. V. Riboud)

Fusibility and crystallisation of basic steelworks
slag containing small amounts of phosphates.
[Rev. Met., 1964, 61, 809-713] (F)

Engineering

BISI 9576 (O. Jungbluth)
Steel/plastic sandwich structures-a new building
technique. [Plastica, 1970, 23, (12), 606-619]
(G)
BISI 9102 (A. Maubon)
Irsid-cafl gas recover system without combustion.
[CDS Circ., 1969, (11), 2473-81] (F)
BISI 9554 (T. Ensink)
Transportation problems in japanese steelworks.
[Stahl Eisen, 1971, June 10, 698] (G)
BISI 9417 (E. Ryszka and E. Josztowa)
Electrostatic cleaning of combustion gases in
iron ore sintering plants. [Prace Inst. Hutn.,
1970, 22, (3), 159-175] (Hung.)

書 評

機 械 材 料 学

本書は機械工学専門課程教育のための教科書、参考書として企画された講座の一巻であり、とくに機械技術者の基礎的知識として必須の材料工学の部分をまとめたものである。それぞれ3人の専門家によって分担され、金属材料の強さに関する力学的解説、金属材料の重点的紹介、非金属材料の概説の3部に分けて執筆されている。

第1編は機械構造の設計上重要な金属材料の強度的特性を主として巨視力学的な見地からの説明がなされており、静的強さ、衝撃強さ、クリープなどの説明に加えて疲れ強さにはとくに重点的に詳しく述べられている。

第2編は金属材料のミクロの見地からの解説であり、金属組織や転位論の初歩につづいて鉄鋼を中心とした金属材料の物理冶金学的説明が行なわれている。

第3編は非金属材料について総括的に解説したもので、分野がきわめて広汎なために詳細な説明を各種材料のそれぞれに加えることは不可能であるが、主として高分子材料やセラミックスについての基本的な知識をよくまとめている。

以上本書を通読してみて、本書編集の趣旨は機械材料の単なるエンサイクロペディア的な色彩をなるべく避けて、その特色を基本的な知識の修得という点に置いており、重点的に詳しく専門的に解説されているところはとくにその感が深い。

機械系大学院学生のみならず、機械技術者、材料関係技術者にも機械材料の分野の新しい傾向を察知するのに役立つものと思われる。(荒木 透)

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