

NATIONAL SLAG ASSOCIATION PUBLICATIONS SUMMARY

GENERAL INFORMATION ON IRON & STEEL SLAG

<u>FILE #</u>	<u>TITLE</u>
	"Iron and Steel Slag ", Mineral Industry Surveys. U.S.G.S. DVD VIDEO - "Slag: The Material of Choice" - 9 minute documentary on the slag industry and Blast Furnace Slag products.
168-2	"Slag Plays Prominent Role in Construction of Multi-Million Dollar Steel Plant"
169-3	"Granulated Slag for Liming Soils"
170-13	"The Advantages of Slag" Describes eight special advantages of blast-furnace slag.
172-13	"Slag and its Relation to the Corrosion Characteristics of Ferrous Metals"
172-6	"Use of Slag as a Roofing Material"
173-3	"Steel Furnace Slag...An Ideal Railroad Ballast"
174-1	"Three Major Uses of Slag Aggregate at Detroit Metropolitan Airport"
174-5	"Two Unique Uses of Slag "; Ground cover and erosion control, and granular slag for filter.
175-6	"The Recyclers" Describes advantages to be gained by using steel industry slags.
177-1	"Blast-Furnace Slag Used as Principal Aggregate in the Construction at the Pittsburgh Airport"
182-1	"Slag Purifies Trout Farm Water"
182-6	"Properties and Uses of Iron and Steel Slags", D. Lewis, 1982
184-1	"Slag Specified for Important Highway Project": Lake Michigan Dockwall
184-7	"Slag Water Filtration System Triples the Production of Fish Hatchery"
185-2	"Open-Graded Pit-Run Increases Bearing Capacity of Weak In-Situ Soils"
185-5	"Blast-Furnace Slag as Agricultural Liming Material"
187-1	"Scotia Plaza - A Unique Slag Project"
188-1	Slag – The All Purpose Aggregate
191-1*	"Gabions Used for Erosion Control"
194-1*	General Information Sheet about NSA
194-2	Slag, All-Purpose Aggregate, 50 th Anniversary Issue
194-3*	Steel Slag Information Sheet
194-4	"Use of Recycled Materials in Highway Construction"
194-5*	"Slag – A Non-Hazard", D. Lewis, 12/80
201-4*	"American Agriculture gets growth spurt using EAF slag as liming agent"
202-1*	Leachate from BF Slag Technical Bulletin
202-3*	Iron and Steel Slag: Environmentally Responsible Construction Aggregates Technical Bulletin
202-6*	"Once again slag proves "less is more" on Michigan's M-63 in Benton Harbor"
203-10*	"Steel Slag Expansion – A Professional Experience"
204-1*	"Lightweight Slag- the product of choice for Highway 17 in Renfrew, Ontario"

SLAG - BASES & FLEXIBLE PAVEMENTS

<u>FILE #</u>	<u>TITLE</u>
168-6	"Untreated vs. Stabilized Granular Bases for Flexible Pavements"
170-1	"Slag Bituminous Surface Courses"
170-3	"The Polishing Resistance of Selected Slag Aggregates", Hegmon & Ryan, Report No. S37
171-1	"The Case for Superior Base Construction with Slag"
173-1	"Slag for Use in Bituminous Concrete"
173-12	"Safer Pavements with Skid-Resistant Slag"
173-7	"Analysis of Pavement Slipperiness in Alabama", 7: Bransford, ASTM STP 530, 1973
175-3	"Blast-Furnace Slag Slurry Seals"

177-4	"Indianapolis Speedway Resurfaced with Air-Cooled Blast-Furnace Slag"
178-4	"91 Million Vehicles Travel Over Blast Furnace Slag Pavement"
179-4	"100% Blast Furnace or Steel Slag Bituminous Mixes Have Best Skid Resistance in Canadian Tests,"
180-10	"Skid Resistance of Open Graded Friction Course Using Blast Furnace Slag Improves After 3 Years of Service"
180-12	"Steel Slag Bituminous Mixes Provide Long Life and High Skid Resistance"
181-2	"Slag Baghouse Fines in Asphalt Mixtures", P. S. Kandhal, 1981
183-1	"Tuffa Deposits Along Ohio Highways", D. Lewis, 1983
183-6	"Baghouse Fines in Asphalt"
183-10	"Air-Cooled Blast-Furnace Slag Bases"
183-2	"Slag Utilization in Pavement Construction", J. Emery', ASTM 1982
183-4	"Construction of Air-Cooled Blast Furnace Slag Base Courses", D. Lewis, 1983
183-5	"Skid-Resistance Predictive Models for Asphaltic Concrete, Surface Courses", Emery, Lee & Kamel
183-7	"Blast-Furnace Slag Slurry Used Exclusively at Kennedy Airport"
185-1	"Steel Slag Required on Illinois State Toll Highway"
185-6	"Michigan Tests Reconfirm Superior Friction Qualities of Steel-Industry' Slags"
185-7	"Slag Used in Unique Designs for Highway Base over Very Soft Sub-Soil"
186-1	"Steel Slag Utilization in Asphalt Mixes"
186-2	"Steel Slag Required on Eisenhower Expressway Resurfacing"
192-1	"Steel Slag Required on Lake Shore Drive Reconstruction"
200-4*	"Sudden Stops and starts don't bother Illinois Tollway Plaza"
200-9*	"Largest Stone Matrix Asphalt project In USA spans 6 lanes for 8 miles"
202-2*	I-70 Glenwood Canyon Asphalt Mix Design Technical Bulletin
202-4*	"NASCAR drivers know a smooth surface starts with a strong foundation"
202-7*	"I-70 through Glenwood Canyon: A series of bridges and a series of challenges solved with steel slag"
203-1*	"Steel Furnace Slag SMA Mix Proves to be 'The Worlds Strongest Intersection"
203-6*	SuperPave Technical Bulletin
204-2*	"ACBF Slag is Major Component of NCAT Test Track Research"
205-2*	Steel Slag used in Chip & Seal Applications Technical Bulletin
205-4*	"Indianapolis Motor Speedway gets a Paving Face Lift", HMAT Jan/Feb 2005 (reprint)

SLAG - APPLICATIONS IN CEMENT & CONCRETE

<u>FILE #</u>	<u>TITLE</u>
151-1A	"Wire Mesh Reinforcement Embedded in Slag Concrete Pavement for 35 Years, Entirely Free of Corrosion", E. Bauman, 1959
154-1	"Slag Aggregate Used in Manufacture of Reinforced Concrete Pipe - 30" to 120" Diameter"
155-8	"Blast-Furnace Slag in Concrete-, R. Bogue, ACI Journal, October 1955
156-2A	"Flexural and Compressive Strength Properties of Air-Entrained Concrete with Air-Cooled BF Slag Aggregate", D. Lewis & F. Hubbard, ASTM Proceedings, 1958
163-5	"Expanded Slag Concrete -Important Factor in Construction of 22-Story Building"
163-8	"Blast-Furnace Slag as a Concrete Aggregate", A. Timms, Modern Concrete
168-5	"Blast-Furnace Slag Concrete"
169-6	"Steel in Concrete with Blast Furnace Slag Aggregate-
171-5	"UL Report on Floor &. Ceiling Construction consisting of Precast, Prestressed Hollow Core Concrete Units", 1971
172-1	"Fire Resistance and Heat Transmission Properties of Concrete arid Masonry Made with Blast Furnace Slag Aggregate"
172-8	"BF Slag Used in Bison System Components for Student Towers"
172-14	"Report on the Use of Pelletized Expanded Slag in Structural Concrete"

174-4	"Expanded Slag Lightweight Concrete Used in Multi-Purpose College Structure"
175-10	"Slag Concrete Masonry Units"
176-7	"Use of Pelletized Slag in Concrete Masonry Units", ASTM Masonry Symposium 1976, 1978 ASTM Journal
180-1	"Pelletized Lightweight Slag Aggregate", J. Emery, Concrete International, 1980
180-6	"The Use of Pelletized Slag in the U.S. ", E. Colburn, Paris Conference, 1979
180-9	"Fire Tests of 3" x 3' Specimens Made with Pelletized Expanded Slag Aggregates", M. Abrams
181-12	"Properties of Ground Granulated Slags in Cement Blends" Heaton, Down & Emery 1981
181-13	"High Temperature Properties of Pelletized Expanded Slag Concrete", D. Lewis, 1981
181-3	"Durability of Slag Cement Concretes", D. Lewis, March 1981
181-4	"Slag Cement", R. Galibert, March 1981 TC/MC Meeting
181-6	"History of Slag Cements" D. Lewis, April 1981 AL Slag Cement Seminar
182-10	"Fly Ash, Slag and Other Pozzolans in Concrete", Concrete International Magazine, July 1982
182-7	"Iron Blast-Furnace Slag Used as a Mineral Admixture in Concrete"
183-3	"Variability in Ground Blast-Furnace Slag Strength Characteristics", D. Lewis, 1983
183-8	"Quality Criteria for Crushed Concrete Aggregate"
184-2	"Glass Content Influence Upon Hydraulic Potential of Blast-Furnace Slag", R. Galibert, 1984
184-5	"Cementitious Applications of Ground Blast-Furnace Slag", D. Lewis, 1984
185-4	"Fire Safety with Concrete Masonry", National Concrete Masonry Association, 1985
188-2	"Pumped BF Slag Concrete Used in Indiana Nine-Bridge Interstate Rehabilitation Project"
188-3	"Scotia Plaza – A unique Slag Project"
200-1*	"Flatwork Concrete that can withstand Michigan's temperature ups and downs"
200-2*	"Since 1774 slag has been mixing it up with cement"
201-1*	CemStar® Technical Bulletin
202-5*	"Slag fills six miles of three new lanes on busy I-65 in Hobart, IN"
204-3*	"Blast Furnace Slag – The Materials of Choice for Portland Cement Concrete"
205-1*	"Whitetopping - thin concrete overlays use BF Slag in Wayne County"
205-3*	"Blast Furnace Slag Weighs in at Detroit Metro Airport's Parking Garage"

Non – NSA Publications Relating to Slag

<u>FILE #</u>	<u>TITLE</u>
ASA -1	"A Guide to the Use of Iron and Steel Slag in Roads"
ASA -2	"Connections, Vol. 2, Issue 4, February 2002"
ASA -3	"Connections, Vol. 2, Issue 5, March 2003"
SE -1	"Concrete." Structural Engineer, Aug. 2001
SE -2	"Why is Slag Important to Building Green", Structural Engineer, March 2002
HPC -1	"Benefits of Slag Cement in HPC", HPC Bridge Views, Issue No. 19, Jan/Feb 2002
SCA -1	"Slag Cement"
SCA -2	"Concrete Proportioning"
SCA -3	"Concrete Time of Set"
SCA -4	"Saw Cutting Joints"
SCA -5	"Producing and Placing Slag Cement Concrete"
SCA -6	"Reducing Permeability"
SCA -7	"Mitigating Sulfate Attack"
SCA -8	"Mitigating Alkali-Silica Reaction"
SCA -9	"Reducing Thermal Stress in Concrete"
SCA -10	"Greening"
SCA -11	"Slag Cement and Fly Ash"
LEVY -1	"ACBF Slag on the Waterways"