Description of Types of Styrene-Butadiene Rubber (SBR) and Butadiene Rubber (BR) Dry Polymers and Latices*

IN COOPERATION with the American Society for Testing Materials, the duties and responsibilities of assigning numbers for the styrene-butadiene (SBR) and butadiene (BR) dry polymers and latices have been transferred to the International Institute of Synthetic Rubber Producers, Inc. The assignment of numbers for new polymers is under the jurisdiction of the Committee on Nomenclature and Numbering of the Institute under rules and regulations prepared by the Committee and approved by the Board of Directors of the Institute. Any producer of dry polymer or latex may apply for a commercial SBR number by making formal application.

The purpose of this brochure is to set forth the numbered types of styrene-butadiene (SBR) rubbers according to their method of manufacture and general physical and chemical properties. The descriptions given in this brochure are of a general nature and are not intended to serve as purchase specifications. It should however be helpful to both manufacturers and consumers by classifying them in a systematic manner.

The polymers in the various tables include those which carry regular Institute numbers as well as those polymers which do not carry regular Institute numbers and which are not equivalent to the regular Institute numbers.

I. I. S. R. P. COMMERCIAL NUMBERING SYSTEM

This numbering system lists the styrene-butadiene rubbers produced commercially. The same basic numbering system established by the Office of Rubber Reserve, R. F. C., and continued by ASTM, is applied in this brochure.

Table I shows a list of the SBR producers together with their locations, their trade names, and abbreviations to identify them in the succeeding tables. In addition, Table I also shows the range of code numbers which have been assigned to the various producers for designating new semi-commercial dry polymers or latices containing styrene-butadiene or only butadiene (emulsion polymerization). New polymers designated by a semi-commercial number may be assigneda standard commercial number by applying to the Institute at such time as the polymer has achieved commercial acceptance.

* 編輯者註 : 本文은 International Institute of Synthetic Rubber Producers, Inc. 에서 1963年 8月에 出版된 것을 轉載한 것임.

TABLE I

STYRENE-BUTADIENE RUBBER PRODUCERS

Producer	Plant Location	Abbre-via-tion	Trade Name	+Semi-Commercial Numbers
American Synthetic Rubber Corporation	U. S. A.	AS	ASRC	3000-3499
ANIC	Italy	AN	EUROPRENE	5500-5599
*Australian Synthetic Rubber Co., Ltd.	Australia	AR	AUSTRAPOL	9700-9799
Chemische Werke Hüls A. G.	Germany	CW	DURANIT, BUNATEX, BUNA	5900-5999
Copolymer Rubber and Chemical Corp.	U. S. A.	C	COPO, CARBOMIX	3500-3999
*Dewey and Almy Chemical Divison—W. R. Grace & Company	U. S. A.	DA	DAREX	
Firestone—France, S. A.	France	FF	FR-S	
Firestone Synthetic Rubber & Latex Company	U. S. A.	F	FR-S	4000-4499
General Tire and Rubber Company	U. S. A.	G	GENTRO, GENTRO-JET, JETRON	9000-9499
Goodrich-Gulf Chemicals, Inc.	U. S. A.	GG	AMERIPOL	4500-4999
Goodyear Tire and Rubber Company	U. S. A.	GT	PLIOFLEX, PLIOLITE	5000-5499
*International Latex Corporation	U. S. A.	IL	TYLAC	
International Synthetic Rubber Co., Ltd.	U. K.	IS	INTOL, INTEX	5600-5699
Japan Synthetic Rubber Co., Ltd.	Japan	JS	JSR	9600-9699
The Japanese Geon Co., Ltd.	Japan	JG	NIPOL	9500-9599
Naugatuck Chemical—Divison of United States Rubber Company	U. S. A.	N	NAUGAPOL, NAUGATEX	6000-6499
*Petrobras	Brazil	PR	PETROFLEX	9800-9899
Phillips Chemical Company	U. S. A.	PC	PHILPRENE	6500-6999
Polymer Corporation, Ltd.	Canada	P	POLYSAR, KRYLENE, KRYNOL, KRYMIX, KRYFLEX	7000-7499
Shell Chemical Company	U. S. A.	S	S.	7500-7999
Shell International Chemical Co. Ltd.	Netherlands	SN	CARIFLEX S.	5800-5899
Société des Elastoméres de Synthése	France	SE	CARIFLEX S.	5700-5799
*Synthetics & Chemicals, Ltd.	India	SC	SYNAPRENE	
*Texas-U. S. Chemical Company	U. S. A.	TU	SYNPOL	8000-8499
United Carbon Company	U. S. A.	U	BAYTOWN	8500-8999

* Non-member of the Institute.

\+ For those producers withblocks of 500 numbers, each block should be further divided by type according to the following tabulation:

Producer's Code No.	Product Type
0 to 49	Hot Non-Pigmented Polymers
50 to 99	Hot Black Masterbatch with 14 or less parts of oil per 100 parts SBR
100 to 149	Cold Non-Pigmented Polymers
150 to 199	Cold Black Masterbatch with 14 or less parts of oil per 100 parts SBR
200 to 249	Cold Oil Masterbatch
250 to 299	Cold Oil Black Masterbatch with more than 14 parts of oil per 100 parts SBR
300 to 349	Hot Latex
350 to 399	Cold Latex
400 to 499	Unassigned

Tables II, III, and IV list the numbers of styrene-butadiene dry polymers, miscellaneous dry

polymer masterbatches, and latices, respectively, and indicate the producers who normally supply any given grade. The numbering system in these tables is arranged as follows:

1000 series	Hot non-pigmented polymers
1500 series	Cold non-pigmented polymers
1600 series	Cold black masterbatch with 14 or less parts of oil per 100 parts SBR
1700 series	Cold oil masterbatch
1800 series	Cold oil black masterbatch with more than 14 parts of oil per 100 parts SBR
1900 series	Miscellaneous dry polymer masterbatches
2000 series	Hot latices
2100 series	Cold latices

Note: In addition to the abbreviations associated with the names of the manufacturing companies, the following abbreviations are used in Tables II, III, and IV:

AC-AL	Acid Alum	ND	Non-discoloring
AR	Aromatic	NST	Non-staining
EPC	Easy Processing Channel	PHR	Parts per Hundred of Rubber
FA	Fatty Acid	RA	Rosin Acid
FEF	Fast Extrusion Furance	SA	Salt Acid
GA	Glue Acid	SAF	Super Abrasion Furnace
HAF	High Abrasion Furnace	S-AL	Salt-Alum
HI-AR	Highly Aromatic	SL ST	Slightly staining
HP	Heavy Process Oil	SPF	Super Processing Furnace
HSR	High Styrene Resin	SRF	Semi-reinforced Furnace
ISAF	Intermediate Super Abrasion Furnace	ST	Staining
NAPH	Naphthenic		

TABLE II

DESCRIPTION OF TYPES OF STYRENE-BUTADIENE (SBR) AND BUTADIENE (BR) DRY POLYMERS

Type							Carbon Black		Oil		
Regular Institute Number	Similar Polymer	Product Stain (Bale)	Emulsifier Type	Target Bound Styrene %	Nominal Mooney Viscosity ML 1+4 (212°F)	Coagulation	Type	phr Target	Type	phr Target	Producers
HOT[c] NON-PIGMENTED POLYMERS											
1000		ST	FA	23.5	48	SA	.....	.....	.....	.....	AS, F, GG, S, TU
〃	S	ST	FA	28.0	47	SA	.....	.....	.....	.....	P
1001		SL ST	FA	23.5	48	SA	.....	.....	.....	.....	F, GG, TU
1002		ST	RA	23.5	54	SA	.....	.....	.....	.....	GG, TU
1004		ST	FA	23.5	50	Alum	.....	.....	.....	.....	AS, F, TU
1006		NST	FA	23.5	50	SA	.....	.....	.....	.....	AR, AS, C, F, GG, GT, IS, PC, S, SE, SN, TU
〃	RPF 297 A	NST	FA	23.5	48	SA	.....	.....	.....	.....	GT
〃	206	NST	FA	23.5	50	SA	.....	.....	.....	.....	F
〃	S-630	NST	FA	28.0	47	SA	.....	.....	.....	.....	P

1007		ST	FA	23.5	50	GA	.....	.....	.....	.....	F, TU
1009[a]		NST	FA	23.5	125[b]	SA	.....	.....	.....	.....	AS, F, GG, PC, S, SN, TU
〃	SX-370[a]	NST	FA	26.0	125[b]	GA	.....	.....	.....	.....	P
1010		NST	FA	23.5	30	Alum	.....	.....	.....	.....	F
〃	181	NST	FA	23.5	30	Alum	.....	.....	.....	.....	F
1011		NST	RA	23.5	54	SA	.....	.....	.....	.....	GG, S
1012		NST	FA	23.5	105	SA	.....	.....	.....	.....	F, GG
1013		NST	FA	43.0	45	Alum	.....	.....	.....	.....	F, GG, S
〃	8000	NST	FA	43.5	45	SA	.....	.....	.....	.....	TU
〃	182	NST	FA	43.0	45	Alum	.....	.....	.....	.....	F
1014		SL ST	RA	40.0	70	S-AL	.....	.....	.....	.....	F
〃	3015	NST	RA	40.0	64	GA	.....	.....	.....	.....	AS
1015		ST	RA	3.5	55	SA	.....	.....	.....	.....	F, N
1016*		ST	FA	23.5	50	GA	.....	.....	.....	.....	N
1018[a]*		NST	FA	23.5	125[b]	GA	.....	.....	.....	.....	AS, N. PC
〃	SX-371[a]*	NST	FA	26.0	125[b]	GA	.....	.....	.....	.....	P
1019*		NST	FA	23.5	50	GA	.....	.....	.....	.....	AS, GT, N, PC
1022*		NST	RA	23.5	80	GA	.....	.....	.....	.....	N
1023*		ST	FA	13.0	50	GA	.....	.....	.....	.....	N
1024		NST	FA	25.0	30	Alum	.....	.....	.....	.....	S
1061		NST	FA	23.5	50	SA	.....	.....	.....	.....	TU
					OTHERS						
	5000*	NST	FA	0	40	SA	.....	.....	.....	.....	GT
	6003*	NST	FA	45.0	120[b]	GA	.....	.....	.....	.....	N
	10×100*	NST	.....	23.5	50	SA	.....	.....	.....	.....	IL
					COLD[c] NON-PIGMENTED POLYMERS						
1500		ST	RA	23.5	52	SA	.....	.....	.....	.....	AN, AR, AS, C, F, G, GG, GT, IS, JS, JG, PC, PR, S, SC, SE, SN, TU, U
〃	Krylene	ST	RA	23.5	52	SA	.....	.....	.....	.....	P
〃	150	ST	RA	23.5	50	SA	.....	.....	.....	.....	CW
〃	BT 27	ST	RA	23.5	50	SA	.....	.....	.....	.....	CW
1501		SL ST	RA	23.5	52	SA	.....	.....	.....	.....	GG
1502		NST	FA-RA	23.5	52	SA	.....	.....	.....	.....	AN. AR, AS, C, F, G, GG, GT, IS, JS, JG, PC, PR, S, SC, SE, SN, TU, U
〃	604	NST	FA-RA	23.5	52	SA	.....	.....	.....	.....	P
〃	153	NST	FA-RA	23.5	50	SA	.....	.....	.....	.....	CW
1503*		NST	FA	23.5	52	GA	.....	.....	.....	.....	AS, AN, GG, GT, N, PC, U
〃	3106*	NST	FA	23.5	50	GA	.....	.....	.....	.....	AS
〃	3100*	NST	FA	23.5	40	GA	.....	.....	.....	.....	AS
1504*		NST	FA	12.0	52	GA	.....	.....	.....	.....	N
1505		NST	RA	9.0	40	SA	.....	.....	.....	.....	C
1506		NST	FA-RA	23.5	25	Alum	.....	.....	.....	.....	G, PC, SU

1506	3110	NST	FA-RA	23.5	26	Alum	.....	.....	.....	.....	AS
1507		NST	FA-RA	23.5	35	SA	.....	.....	.....	.....	AR, AS, C, GT, JS
〃	170	NST	FA-RA	23.5	30	SA	.....	.....	.....	.....	CW
〃	BT 16	NST	FA-RA	23.5	40	SA	.....	.....	.....	.....	CW
〃	146	NST	FA-RA	23.5	40	SA	.....	.....	.....	.....	F
1508		NST	FA	23.5	52	SA	.....	.....	.....	.....	GT
〃	Krylene NS	NST	FA	28.0	52	SA	.....	.....	.....	.....	P
1509		NST	FA-RA	23.5	34	Alum	.....	.....	.....	.....	G, GG, IS, S, SE, SN, U
〃	606	NST	FA-RA	23.5	35	Alum	.....	.....	.....	.....	P
〃	6632	NST	FA-RA	23.5	34	Alum	.....	.....	.....	.....	AN
〃	3105	NST	FA-RA	23.5	33	Alum	.....	.....	.....	.....	AS
〃	189	NST	FA-RA	23.5	30	Alum	.....	.....	.....	.....	F
1510		NST	FA	23.5	32	SA	.....	.....	.....	.....	C, GT
〃	211	NST	FA	23.5	33	SA	.....	.....	.....	.....	F
〃	602	NST	FA	28.0	35	SA	.....	.....	.....	.....	P
〃	8104	NST	FA	23.5	30	Alum	.....	.....	.....	.....	TU
1511		NST	FA	23.5	40	SA	.....	.....	.....	.....	GG
1512*		NST	FA	29.0	52	GA	.....	.....	.....	.....	AN, PC
〃	200	NST	FA	28.0	52	GA	.....	.....	.....	.....	P
1551		NST	RA	23.5	52	SA	.....	.....	.....	.....	TU
〃	152	NST	RA	23.5	50	SA	.....	.....	.....	.....	CW
1570		NST	FA-RA	23.5	125	SA	.....	.....	.....	.....	IS
〃	202	NST	FA-RA	23.5	110	SA	.....	.....	.....	.....	P

OTHERS

	4604	NST	FA-RA	40.0	36	Alum	.....	.....	.....	.....	GG
	3115	NST	FA-RA	40.0	33	Alum	.....	.....	.....	.....	AS
	BT24	NST	FA-RA	40.0	40	SA	.....	.....	.....	.....	BW
	7553	NST	FA-RA	42.0	30	Alum	.....	.....	.....	.....	S
	180	ST	RA	23.5	115	SA	.....	.....	.....	.....	CW
	BT12	NST	RA	23.5	80[d]	SA	.....	.....	.....	.....	CW
	181	NST	RA	23.5	70[d]	SA	.....	.....	.....	.....	CW
	179	NST	FA-RA	23.5	72[d]	SA	.....	.....	.....	.....	F

COLD BLACK MASTERBATCH

1600		ST	RA	23.5	72[b]	SA	HAF	50	.....	.....	S, U
1601		ST	FA-RA	23.5	68[b]	SA	HAF	50	.....	.....	PC, U
〃	BT101	NST	FA-RA	23.5	62[b]	SA	HAF	50	.....	.....	CW
1602		ST	FA-RA	23.5	85[b]	SA	HAF	50	.....	.....	S, U
1603		NST	FA	23.5	58[b]	GA	EPC	50	.....	.....	PC
〃	1603A	NST	FA-RA	23.5	52[b]	Acid	EPC	50	.....	.....	U
〃	4658	NST	FA-RA	23.5	52[b]	Acid	EPC	50	.....	.....	GG
〃	7652	NST	FA-RA	23.5	44[b]	SA	EPC	50	.....	.....	S
1605		NST	FA	23.5	62[b]	Acid	FEF	50	.....	.....	GG, GT, PC, SN, S, U
〃	680	NST	FA	28.0	60[b]	SA	FEF	50	.....	.....	P

1606		ST	RA	23.5	56[b]	Acid	HAF	52	HI-AR	10	AN, C, G, GG, PC, S, SN, TU, U
〃	681	ST	RA	23.5	56[b]	SA	HAF	52	HI-AR	10	P
1608		ST	RA	23.5	58[b]	Acid	ISAF	52	HI-AR	12.5	AN, C, F, G, GG, PC, S, SN, TU, U
1609		ST	RA	23.5	61[b]	Acid	SAF	40	HI-AR	5	C. G.GG, GT.PC, S, U
1610		ST	RA	23.5	57[b]	Acid	ISAF	52	HI-AR	10	GG
〃	8676	ST	RA	23.5	56[b]	Acid	ISAF	50	AR	10	U
〃	670	ST	FA-RA	23.5	73[b]	SA	ISAF	52	HI-AR	10	CW
1611		SLST	RA	23.5	62[b]	Acid	HAF	62.5	HP	12	GG
					OTHERS						
	630	NST	FA-RA	23.5	68[b]	SA	FEF	50	NAPH	5	CW
	BT 104	NST	FA-RA	23.5	88[b]	SA	SRF	100	NAPH	15	CW
	CH 50	NST	FA-RA	23.5	···	SA	HAF	50	NAPH	9	JS
	CH 51	ST	RA	23.5	···	SA	HAF	50	NAPH	9	JS
	CH 55	ST	FA-RA	23.5	···	SA	HAF	55	HI-AR	9	JS
	9157	ST	RA	23.5	51[b]	Acid	SAF	40	HI-AR	12.5	G
	4669	ST	RA	23.5	50[b]	Acid	ISAF	50	HI-AR	15	GG
	4670	ST	RA	23.5	50[b]	Acid	SAF	40	HI-AR	10	GG
	6655	ST	RA	23.5	55[b]	Acid	SAF	55	HI-AR	12	PC
	9158	ST	RA	23.5	55[b]	Acid	FEF	52	HI-AR	10	G
	7655	NST	FA-RA	23.5	43[b]	Acid	EPC	20	·····	···	S
	8679	ST	RA	23.5	50[b]	Acid	SAF	40	HI-AR	10	U
	8683	NST	FA-RA	23.5	45[b]	SA	HAF	50	NAPH	10	U
					COLD[c] OIL MASTERBATCH						
1703		NST	FA-RA	23.5	60	SA	·····	·····	NAPH	25	AS, F, GG, S
〃	173	NST	FA-RA	23.5	60	SA	·····	·····	NAPH	25	F
〃	3153	NS	FA-RA	23.5	42	SA	·····	·····	NAPH	25	AS
〃	8209	NST	FA-RA	35.0	50	Alum	·····	·····	NAPH	25	TU
1705		ST	FA-RA	23.5	60	SA	·····	·····	AR	25	GG
1707		NST	RA	23.5	55	SA	·····	·····	NAPH	37.5	GG, S, SE, SN, TU
〃	372	NST	RA	23.5	55	SA	·····	·····	NAPH	37.5	CW
1708		NST	FA	23.5	60	GA	·····	·····	NAPH	37.5	AN, AS, GG, GT, PC, PR, TU, U
〃	8200	NST	FA	23.5	55	GA	·····	·····	NAPH	37.5	TU
〃	3158	NS	FA	23.5	42	SA	·····	·····	NAPH	37.5	AS
1709		ST	RA	23.5	55	SA	·····	·····	AR	37.5	S
1710		ST	FA-RA	23.5	55	SA	·····	·····	AR	37.5	F, GG, IS, S
〃	184	ST	FA-RA	23.5	45	·····	·····	·····	AR	37.5	F
1711		ST	RA	23.5	55	SA	·····	·····	HI-AR	37.5	·····
〃	302	ST	RA	23.5	49	SA	·····	·····	HI-AR	37.5	CW
1712		ST	FA-RA	23.5	55	SA	·····	·····	HI-AR	37.5	AN, AR, AS, C, F, G, GG, GT, IS, JS, PC, PR, S, SC, SE, SN, TU, U
〃	655	ST	FA-RA	23.5	52	SA	·····	·····	HI-AR	37.5	P

1712	BT21	ST	FA-RA	23.5	50	SA	.....	.....	HI-AR	37.5	CW
〃	3162	ST	FA-RA	23.5	42	SA	.....	.....	HI-AR	37.5	AS
1713		NST	FA-RA	23.5	52	SA	.....	.....	NAPH	50	AS, C, G, GT, S, SN, U
〃	201	NST	FA-RA	23.5	50	SA	.....	.....	NAPH	50	F
〃	8208	NST	FA-RA	23.5	47	SA	.....	.....	NAPH	50	TU
〃	BTB	NST	FA-RA	23.5	50	SA	.....	.....	NAPH	50	CW
〃	373	NST	RA	23.5	52	SA	.....	.....	NAPH	50	CW
〃	1713×6	NST	FA-RA	23.5	40	SA	.....	.....	NAPH	50	GT
1714		ST	FA-RA	23.5	52	SA	.....	.....	HI-AR	50	AS, C, G, GT, IS, S, SN
〃	213	ST	FA-RA	23.5	45	.....	.....	.....	AR	50	F
〃	4702	ST	FA	23.5	52	GA	.....	.....	HI-AR	50	GG
〃	8202	ST	FA-RA	23.5	49	SA	.....	.....	HI-AR	50	TU
〃	BT25	ST	FA-RA	23.5	60	SA	.....	.....	HI-AR	50	CW
1715*		NST	FA	23.5	45	GA	.....	.....	NAPH	50	GG
〃	4700	NST	FA	23.5	52	GA	.....	.....	NAPH	50	GG
〃	4706	NST	FA	23.5	36	GA	.....	.....	NAPH	50	GG
〃	8201	NST	FA	23.5	48	GA	.....	.....	NAPH	50	TU
〃	6700	NST	FA	23.5	50	GA	.....	.....	NAPH	50	AN
1716		NST	FA	23.5	50	GA	.....	.....	NAPH	50	PC
1773		NST	FA-RA	23.5	60	SA	.....	.....	NAPH	25	GT, JS
〃	1773×6	NST	FA-RA	23.5	40	SA	.....	.....	NAPH	25	GT
1778		NST	FA-RA	23.5	55	SA	.....	.....	NAPH	37.5	AR, C, G, GT, IS, JS, S, SE, SN, U
〃	178	NST	FA-RA	23.5	50	SA	.....	.....	NAPH	37.5	F
〃	654	NST	FA-RA	23.5	41	SA	.....	.....	NAPH	37.5	P
〃	352	NST	FA-RA	23.5	49	SA	.....	.....	NAPH	37.5	CW
〃	362	NST	FA-RA	23.5	49	SA	.....	.....	NAPH	37.5	CW
〃	652	NST	FA-RA	23.5	52	SA	.....	.....	NAPH	37.5	P
〃	1778×6	NST	FA-RA	23.5	40	SA	.....	.....	NAPH	37.5	GT
〃	7703	NST	FA-RA	23.5	37	Alum	.....	.....	NAPH	37.5	SE, SN
					OTHERS						
	3163	NST	FA-RA	26.0	42	GA	.....	.....	NAPH	50	AS
	7702	NST	FA	23.5	58	SA	.....	.....	NAPH	50	S
	653	ST	FA-RA	23.5	45	SA	.....	.....	HI-AR	37.5	P
	M 400	NST	RA	36.0	50[b]	SA	.....	.....	.....	30	IS
					COLD[c] OIL BLACK MASTERBATCH						
1801		ST	FA-RA	23.5	60[b]	SA	HAF	50	NAPH	25	U
1803		ST	FA-RA	23.5	65[b]	SA	HAF	50	HI-AR	25	PC, S
〃	1803A	ST	FA-RA	23.5	60[b]	Acid	HAF	50	AR	25	U
1805		NST	FA-RA	23.5	58[b]	Acid	HAF	75	NAPH	37.5	F, GG, GT, PC, U
〃	BT103	NST	FA-RA	23.5	67[b]	SA	HAF	75	NAPH	37.5	CW
1806		NST	RA	23.5	50[b]	SA	FEF	60	NAPH	37.5	S, TU
1808		ST	FA-RA	23.5	48[b]	Acid	HAF	75	HI-AR	50	AN, C, F, G, GG, GT, PC, S, SN, TU, U
〃	751	ST	FA-RA	23.5	60[b]	SA	HAF	76	AR	47.5	CW

1808	683	ST	FA-RA	23.5	57[b]	SA	HAF	75	HI-AR	50	P
〃	8788	ST	FA-RA	23.5	47[b]	Acid	SPF	75	HI-AR	55	U
1809		ST	FA-RA	23.5	53[b]	Acid	HAF	75	HI-AR	37.5	C, F, GG, GT
〃	685	ST	FA-RA	23.5	57[b]	SA	HAF	75	HI-AR	37.5	P
1811		ST	RA	23.5	46[b]	Acid	SRF	75	HI-AR	17.5	C, U
1813		ST	FA-RA	23.5	62[b]	Acid	ISAF	60	HI-AR	37.5	C, GT, PC, S, U
〃	8267	ST	RA	23.5	50[b]	Acid	ISAF	60	HI-AR	37.5	TU
〃	4251	ST	FA-RA	23.5	55[b]	Acid	ISAF	62	AR	37.5	F
1814		ST	FA-RA	23.5	60[b]	Acid	ISAF	75	HI-AR	50	C, S, SN, TU, U
〃	689	ST	FA-RA	23.5	60[b]	SA	ISAF	75	HI-AR	50	P
1815		NST	FA-RA	23.5	45[b]	Acid	HAF	75	NAPH	50	C, F, GT, PC, S, SN, U
〃	8257	NST	FA	23.5	55[b]	Acid	HAF	75	NAPH	50	TU
〃	4771	NST	FA	23.5	50[b]	Acid	HAF	75	NAPH	50	GG
〃	4777	NST	FA	23.5	52[b]	Acid	SPF	75	NAPH	50	GG
1816		ST	FA-RA	23.5	55[b]	Acid	ISAF	70	HI-AR	45	G, U
1817		ST	FA-RA	23.5	50[b]	Acid	SAF	55	HI-AR	45	C, G, S
1818		ST	FA-RA	23.5	60[b]	Acid	ISAF	75	HI-AR	37.5	C, U
〃	770	ST	FA-RA	23.5	75[b]	SA	ISAF	70	HI-AR	37.5	CW
1819		ST	FA-RA	23.5	60[b]	Acid	HAF	75	AR	37.5	GG, U
1820		NST	FA-RA	23.5	55[b]	Acid	FEF	68.75	NAPH	37.5	GT, PC, U
1821		NST	FA-RA	23.5	58[b]	Acid	FEF	80	NAPH	37.5	U
1822		ST	FA-RA	23.5	60[b]	Acid	ISAF	75	AR	37.5	GG
1823		ST	FA-RA	23.5	52[b]	Acid	HAF	82.5	HI-AR	62.5	C, G, GG, PC, S, U
1824		ST	FA-RA	23.5	52[b]	Acid	ISAF	82.5	HI-AR	62.5	C, G, GG, PC, S, U
1825		ST	FA-RA	23.5	50[b]	Acid	HAF	90	HI-AR	65	PC
1826		ST	RA	23.5	47[b]	Acid	ISAF	50	HI-AR	15	U
1827		NST	FA-RA	23.5	38[b]	Acid	EPC	40	NAPH	15	U
1828		NST	FA-RA	23.5	52[b]	Acid	SRF	75	NAPH	17.5	GG

OTHERS

3761	NST	RA	23.5	45[b]	Acid	SRF	75	NAPH	17.5	C
8776	NST	FA-RA	23.5	43[b]	Acid	HAF	50	NAPH	37.5	U
8789	NST	FA-RA	23.5	39[b]	Acid	SPF	75	NAPH	62.5	U
4778	ST	FA-RA	23.5	52[b]	Acid	ISAF-LM	60	HI-AR	37.5	GG
3764	ST	FA-RA	23.5	54[b]	Acid	ISAF-LM	60	HI-AR	37.5	C
4250	ST	FA-RA	23.5	45[b]	Acid	ISAF	60	AR	45	F
7758	ST	FA-RA	23.5	47[b]	Acid	ISAF	60	AR	45	S
9157	ST	RA	23.5	51[b]	Acid	SAF	40	HI-AR	12.5	G
7761	ST	FA-RA	23.5	48[b]	SA	SPF	82.5	HI-AR	71	S
5252C	ST	FA-RA	23.5	45[b]	Acid	ISAF	70	HI-AR	6.25	GT

(a) Contains a cross-linking agent

(b) Compound viscosity as obtained from current test recipe. These compound viscosities are currently under revision in line with new test recipes developed by ASTM and recommended by the Institute.

(c) Cold polymerization temperature is 50° F. and below; hot 100° F. and above.

(d) MS 4 min. @ 212° F.

(*) Special Finishing

TABLE III

DESCRIPTION OF MISCELLANEOUS DRY POLYMER MASTERBATCHES

Type			Extender or Additive			Nominal Mooney Viscosity		Description of Extender or Additive	Producers
Regular Institute Number	Similar Polymer	SBR Type	Type	Parts/ 100 SBR Type	Product Stain	ML 1+4 @ 212°F.	Coagulation		
1900		1510	HSR	100	NST	45	SA	Hot FA Emulsion Polymer of approx. 87% Bound Styrene	GT
〃	SS 250	KNS	HSR	80	NST		SA	Hot FA Emulsion Polymer of approx. 87% Bound Styrene	P
1950*		1708	HSR	100	NST	55	GA	Hot FA Emulsion Polymer of approx. 87% Bound Styrene	GT
					OTHERS				
	SP 102	1502	HSR	100	NST	59	SA	85% Bound Styrene Resin	S
	158	1502	HSR	100	NST	.....	SA		F
	HS-850	1502	HSR	100	NST	45	SA	Hot FA Emulsion Polymer of approx. 87% Bound Styrene	JG
	SS-260	602	HSR	150	NST		SA	Hot FA Emulsion Polymer of approx. 87% Bound Styrene	P
	0060	1507	HSR	.....	NST	55	SA		JS
	Duranit B	170	HSR	150	NST	.....	SA	FA Emulsion Polymer 85% Bound Styrene	CW
	SP103	1509	HSR	100	NST	45	SA	85% Bound Styrene Resin	S
	SP145	1509	HSR	81.8	NST	.....	SA	85% Bound Styrene Resin	SN
	15A	1502	HAF BLACK	60	NST	.....	.....		IS
	15B	1500	HAF BLACK	60	NST	.....	.....		IS
			HI-AR OIL	10					
	17A	1778	SAF BLACK	60	NST	.....	.....		IS
	17B	1712	SAF BLACK	60	NST	.....	.....		IS

TABLE IV

DESCRIPTION OF TYPES OF STYRENE-BUTADIENE (SBR) AND BUTADIENE RUBBER (BR) LATICES

Type		Emulsifier Type	Contained Polymer Nominal Mooney Viscosity ML 1 + 4 (212° F.)	Target Bound Styrene %	Nominal Total Solids %	Producers
Regular Institute Number	Simiar Polymer					
			HOT LATICES			
2000		RA	75	46.0	40	C, F, FF, G, GT, S, N
〃	IV	RA	75	46.0	43	P
〃	620L	RA	75	46.0	42	DA
2001		RA	30	46.0	38	F, FF, GT, N
〃	622L	RA	30	46.0	42	DA
2002		RA	65	46.0	48	F, FF
〃	625L	RA	75	46.0	50	DA
	110	.....	70	46.0	53	F

	176	.....	65	48.0	53	F, GT
2003		RA	140	29.0	59	F, FF
2004		RA	.....	0	58	F, FF
2006		FA	50	23.5	27	F, FF, N
				OTHERS		
	5300	RA	75	46.0	53	GT
	5301	RA	75	46.0	59	GT
	J-9049	RA	70	46.0	49	N
	J-8146	RA	70	46.0	59	N
				COLD[e] LATICES		
2101		FA	.....	23.5	24	C, S
2102		FA	.....	14.0	60	C
2104		FA	.....	0	58	GT
2105		FA-RA	140	25.0	61	C, F, FF, GT, N, S
〃	K60	FA-RA	140	25.0	61	CW
2107		FA-RA	140	44.0	61	GT, N
2108		FA	.....	23.5	40	C, FF, GT, JS, N
〃	741	FA	150	22.0	42	P
2110		FA	.....	25.0	60	C
2111		RA	52	23.5	20	
〃	220	RA	50	23.5	23	CW
〃	200	RA	50	23.5	23	CW
〃	R23	RA	48	23.5	23	IS
2113		FA-RA	140	44.0	48	N
2114		FA	120	24.0	68	
〃	722	FA	150	22.0	67	P
〃	K70	FA	120	24.0	68	CW
〃	100	FA	140	24.0	68	IS
				OTERS		
	200	.....	105	25.0	65	F
	216	.....	125	25.0	65	F
	246	.....	.....		63	JG
	0561	FA	140	24.5	69	JS
	725	FA	150	32.0	65	P
	3852	FA	.....	23.5	52	C
	3856	FA	.....	23.5	64	C
	5350	FA-RA	120	25.0	62	GT
	5352	FA	120	25.0	69	GT
	5353	FA	120	25.0	55	GT
	5355	FA-RA	110	30.0	65	GT
	5356	FA-RA	120	25.0	67	GT
	7852	FA-RA	140		63	S
	M23B	FA-RA	100	23.5	20.5	IS
	F28	FA	140	24.0	31	IS
	J-9428	FA	140	26.0	69	N

[e] Cold polymerization temperature is 60°F. and below; hot 100°F. and above