FOUNDED 1862 ABS

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PROJECT NO.: 1905269

POLIMER KAUCUK SAN. VE PAZ. A.S.
O.S.B. Ataturk Cd. 6 Sk. No.3 Cerkezkoy/Tekirdag/Turkey

SUBJECT: **Product Design Assessment (PDA)/ Flexible Hoses of non-metallic materials**
SEL-Polimer **HWB313** (EN 853 standard, type 1SN), **HWB323** (EN853 standard, type 2SN), **HWB315** (EN857 standard, type 1SC), **HWB325** (EN 857 standard, type 2SC), **HWB2N/K32S** (type 2SN-K), **PS-4SP391** (EN 856 standard, type 4SP), **PS-4SH392** (EN 856 standard, type 4SH), **PS-R13/397** (EN 856 standard, type R13), **PS-R15/398** (SAE J517 standard, type SAE100 R15), Coupling type "VOLZ", types and sizes as per the Attachment A
Documentation and test reports as per Attachment B

Attention: Mr. M. Ildiz

Gentlemen:

We have ABS Istanbul letter of 10 January 2012 and email message of 15 February 2012, together with the appropriate enclosures as per the attached list to the present letter, and are pleased to advise that we have completed the design assessment phase of the type approval process of the subject products. Since you also have a valid certificate of Manufacturing Assessment we will endorse this product as Type Approved.

Enclosed is your original copy of the **Certificate of Design Assessment**. Please read the pages attached to the certificate to be sure that you understand the scope and conditions of the validity of the certificate. We recommend that you monitor the ABS Rules and other specifications used in the approval. These Rules and specifications often change on an annual basis, and you must comply with the new Rules and specifications in order for the product to be used on an ABS classed vessel or facility contracted under the new Rules or specifications.

Since the original certificate is multi-colored, we have no objections to unlimited black and white photocopies of the certificate being distributed. As you already know, your details are published on our web site and can also be downloaded there

One (1) electronic copy of the submitted documentation and Test Reports appropriately stamped to indicate our review is being returned by email.

Our invoice to cover the time involved for the review of the subject documentation and test reports will be forwarded to you in due course.

We appreciate your confidence in ABS Type Approval. If you should have any comments relative to the scope and conditions of the assessment of your product, or if we can be of any further assistance, please do not hesitate to contact us.

Very truly yours

I.Koumbarelis

I.Koumbarelis
Sr. Managing Principal Engineer

CC: ABS Istanbul, Surveyor

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HWB313 (EN 853 standard, type 1SN, oil and water resistant synthetic rubber lining, one layer of tensile steel wire and an oil and weather resistant rubber cover), temperature range -40 deg.C/ +100 deg.C

Nominal Bore (mm)	Max. Working Pressure (bar)	Coupling
6	225	VOLZ (recommended type: N-PF3)
8	215	VOLZ (recommended type: N-PF3)
10	180	VOLZ (recommended type: N-PF3)
12	160	VOLZ (recommended type: N-PF3)
16	130	VOLZ (recommended type: N-PF3)
19	105	VOLZ (recommended type: N-PF3)
25	88	VOLZ (recommended type: N-PF3)
31	63	VOLZ (recommended type: N-PF3)
38	50	VOLZ (recommended type: N-PF3)
51	40	VOLZ (recommended type: N-PF3)

HWB323 (EN853 standard, type 2SN, oil and water resistant synthetic rubber lining, two layers of tensile steel wire and an oil and weather resistant rubber cover), temperature range -40 deg.C/ +100 deg.C

Nominal Bore (mm)	Max. Working Pressure (bar)	Coupling
6	400	VOLZ (recommended type: N-PF3)
8	350	VOLZ (recommended type: N-PF3)
10	330	VOLZ (recommended type: N-PF3)
12	275	VOLZ (recommended type: N-PF3)
16	250	VOLZ (recommended type: N-PF3)
19	215	VOLZ (recommended type: N-PF3)
25	165	VOLZ
31	125	VOLZ (recommended type: N-PF11)
38	90	VOLZ (recommended type: N-PF11)
51	80	VOLZ (recommended type: N-PF11)

HWB315 (EN857 standard, type 1SC, oil and water resistant synthetic rubber lining, one layer of tensile steel wire and an oil and weather resistant rubber cover), temperature range -40 deg.C/ +100 deg.C

Nominal Bore (mm)	Max. Working Pressure (bar)	Coupling
6	225	VOLZ (recommended type: N-PF3)
8	215	VOLZ (recommended type: N-PF3)
10	180	VOLZ (recommended type: N-PF3)
12	160	VOLZ (recommended type: N-PF3)
16	130	VOLZ (recommended type: N-PF3)
19	105	VOLZ (recommended type: N-PF3)
25	88	VOLZ (recommended type: N-PF3)

HWB325 (EN 857 standard, type 2SC, oil and water resistant synthetic rubber lining, two layers of tensile steel wire and an oil and weather resistant rubber cover), temperature range -40 deg.C/ +100 deg. C

Nominal Bore (mm)	Max. Working Pressure (bar)	Coupling
6	400	VOLZ (recommended type: N-PF3)
8	350	VOLZ (recommended type: N-PF3)
10	330	VOLZ (recommended type: N-PF3)
12	275	VOLZ (recommended type: N-PF3)
16	250	VOLZ (recommended type: N-PF3)
19	215	VOLZ (recommended type: N-PF3)
25	165	VOLZ (recommended type: N-PF3)

HWB2N-K32S (2SN-K oil and water resistant synthetic rubber lining, two layers of tensile steel wire and an oil and weather resistant rubber cover), temperature range -40 deg.C/+100 deg.C

Nominal Bore (mm)	Max. Working Pressure (bar)	Coupling
6	450	VOLZ (recommended type: N-PF3)
8	420	VOLZ (recommended type: N-PF3)
10	385	VOLZ (recommended type: N-PF3)
12	345	VOLZ (recommended type: N-PF3)
16	290	VOLZ (recommended type: N-PF3)
19	280	VOLZ (recommended type: N-PF3)
25	200	VOLZ (recommended type: N-PF3)

PS-4SP391 (EN 856 standard, type 4SP, oil and water resistant synthetic rubber lining, spiral plies of steel wire wrapped in alternating directions, and oil and weather resistant synthetic rubber cover), temperature range -40 deg.C/+100 deg.C

Nominal Bore (mm)	Max. Working Pressure (bar)	Coupling
6	450	VOLZ (recommended type: N-PF5)
10	445	VOLZ (recommended type: N-PF5)
12	415	VOLZ (recommended type: N-PF5)
16	350	VOLZ (recommended type: N-PF5)
19	350	VOLZ (recommended type: N-PF5)
25	280	VOLZ (recommended type: N-PF5)
31	210	VOLZ (recommended type: N-PF5)
38	185	VOLZ (recommended type: N-PF5)
51	165	VOLZ (recommended type: N-PF5)

PS-4SH392 (EN 856 standard, type 4SH, oil and water resistant synthetic rubber lining, spiral plies of steel wire wrapped in alternating directions, and oil and weather resistant synthetic rubber cover), temperature range -40 deg.C/+100 deg.C

Nominal Bore (mm)	Max. Working Pressure (bar)	Coupling
19	420	VOLZ (recommended type: PFI-4SH)
25	380	VOLZ (recommended type: PFI-4SH)
31	325	VOLZ (recommended type: PFI-4SH)
38	290	VOLZ (recommended type: PFI-4SH)
51	250	VOLZ (recommended type: PFI-4SH)

PS-R13/397 (EN 856 standard, type R13, oil and water resistant synthetic rubber lining, spiral plies of steel wire wrapped in alternating directions, and oil and weather resistant synthetic rubber cover), temperature range -40 deg.C/+120 deg.C

Nominal Bore (mm)	Max. Working Pressure (bar)	Coupling
19	345	VOLZ (recommended types: PFI-4SH, PFI-R13)
25	345	VOLZ (recommended types: PF1-4SH, PFI-R13)
31	345	VOLZ (recommended type: PFI-R13)
38	345	VOLZ (recommended type: PFI-R13)
51	345	VOLZ (recommended type: PFI-R13)

PS-R15/398 (SAE J517 standard, type SAE 100R15, oil and water resistant synthetic rubber lining, spiral plies of steel wire wrapped in alternating directions, and oil and weather resistant synthetic rubber cover), temperature range -40 deg.C/+121 deg.C

Nominal Bore (mm)	Max. Working Pressure (bar)	Coupling
19	420	VOLZ (recommended types: PFI-4SH, PFI-R13, PFI-R15)
25	420	VOLZ (recommended types: PFI-4SH, PFI-R13, PFI-R15)
31	420	VOLZ (recommended types: PFI-R13, PFI-R15)
38	420	VOLZ (recommended types: PFI-R13, PFI-R15)
51	420	VOLZ

Drawing List

Drawing No	Revision No	Drawing Title
SECTION 01	-	TYPE APPROVAL PROGRAM FOR FLEXIBLE NON-METALLIC HOSE
SECTION 02	-	PRODUCT TYPES FOR ABS CERTIFICATION
SECTION 03	-	TECHNICAL DRAWINGS AND DETAIL INFORMATION OF HOSES
SECTION 04	-	TECHNICAL FEATURES OF COUPLINGS AND SWAGING DETAILS
SECTION 05	-	SUGGESTED INSPECTION TEST PROGRAM
SECTION 06	-	INSPECTION TEST REPORTS
SECTION 07	-	CURRENTLY APPROVED CERTIFICATES HOLDING

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