



Contract for Performance of Research, Experimental Design and Technological Work

PRL Polymer research Lab, s.r.o., Nad Ovčírnou 3685, 76001 Zlín, Registration Certificate No. 29309239 VAT ID CZ 29309239 hereinafter referred to as the «Customer», represented by Dipl.-Ing. Reinhold Kipscholl, General Manager, on the one hand, and the **Tomas Bata University in Zlín**, located at the address: **nám. T. G. Masaryka 5555, Zlín 760 01, Czech Republic**, Registration Certificate No. 70883521 VAT ID CZ70883521, hereinafter referred to as the «Contractor», represented by Prof. Petr Sába, Rector, acting on the grounds of the law, on the other hand, hereinafter collectively referred to as «Parties», have concluded this contract (hereinafter – «Contract») as follows:



1. SUBJECT OF THE CONTRACT

1.1. The subject of this Contract is performance of research, experimental design and technological work (hereinafter R&D work) related to experimental work required from the customer, creation of new products and technologies or to improvement of current products under the instructions and in the interests of the Customer.

1.2. The Contractor undertakes to perform and deliver to the Customer, and the Customer undertakes to accept and to pay for the work according to the subject «Complex analyses and development of testing methodologies for description of mechanical behavior of rubber materials under quasi-static as well as dynamic and fatigue loading conditions.».

1.3. In the Protocols that constitute an integral part hereof, the Parties shall define the scientific, technical, economic and other requirements to the aforesaid work. Each Protocol drawn up on the form agreed by the Parties contains, a Project Proposal describing a technical assignment and framework of the co-operation (Appendix 1 to present Contract), a Time Plan which defines tasks to be carried out and single milestones of the project (Appendix 2 to present Contract) and a Cost Plan (Appendix 3 to present Contract).

1.4. The Contractor shall be entitled to engage third parties to fulfill the Contract with the prior written consent of the Customer only.

2. TECHNICAL CONDITIONS

2.1. The Contractor shall comply with all requirements and specifications that are set forth in the Appendixes to this Contract; and may diverge from them with a prior written consent of the Customer only. The Contractor shall be entitled at his own risk to modify the ways of resolving any particular technical matters, the methodology and contents of the research and tests, provided that such modifications do not contradict to the requirements set forth in the relevant Protocol to present Contract.

2.2. Any alteration of the technical requirements earlier agreed with the Contractor, and made in the course of fulfilling the Contract at a written request of the Customer, which results in either increase or decrease of the work scope stipulated for by the Time Plan (Appendix 2 to present Contract), or any alteration of the requirements stipulated by the technical specifications shall be executed by an additional written agreement of the Parties with a Memorandum of agreement about changing the work price.

2.3. Any rework related to some divergences from the Project proposal, which were not agreed upon with the Customer, or from the requirements set forth in additional agreements, any computation errors, etc., shall be done by the Contractor at his own expense.

2.4. In case the Customer reveals any additional comments or claims after paying for the work, he shall have the right to forward them to the Contractor within 20 (twenty) business days from the date of signing an Act of Work Delivery and Acceptance by the Customer.

At the Customer's request the Contractor shall be obliged to make necessary corrections in the fulfilled work with no additional payment provided they are within the limits of the Project Proposal to present Contract. The term for taking corrective actions shall be agreed by the Parties.

2.5. Scientific and technical documentation developed hereunder shall contain the justification of conclusions and recommendations of the Contractor, confirmed by experimental data and theoretical calculations.

Such documentation shall be delivered to the Customer at least in electronic format in 1 set.

2.6. The Customer shall have the right to inspect the progress and quality of the scientific and research work under the Contract, without interfering into the operative and business activities of the Contractor.

3. PERIOD OF PERFORMANCE

3.1. The work stipulated by the Contract shall be performed within a period specified in the Protocols hereof.

3.2. As agreed with the Customer, the Contractor shall have the right to deliver the performed work entirely and its separate stages before the intended date. The Customer shall accept such work (stages of the work) in accordance with the terms and conditions of the Contract and pay for it.

3.3. The date of fulfillment of obligations under the Contract as a whole and its separate stages shall be deemed the date of signing (approving) the Act of Work (Work Stage) Delivery and Acceptance.

4. PROCEDURE FOR DELIVERY AND ACCEPTANCE OF THE WORK PERFORMED

4.1. The acceptance and evaluation of the work shall be carried out in strict compliance with the Project Proposal and the Time Plan. The Act of the Work Delivery and Acceptance is

to contain the activities actually performed over the period of work with the list of each kind of such activity.

4.2. Upon completion of the next scheduled stage of work, the Contractor shall forward to the Customer the deliverables specified in the Time Plan to present Contract, an Act of Work Delivery and Acceptance, an invoice.

4.3. On completion of the work hereunder, the Contractor shall forward to the Customer the deliverables under the Contract on the whole, and the Act of Delivery and Acceptance of the final stage work.

4.4. The Customer shall analyze the delivered documents within 20 (twenty) business days from the date of the deliverables receipt; then he shall either forward to the Contractor the signed Act of Work Delivery and Acceptance or forward to the Contractor a reasonable refusal with a detailed list of required rework, in which the deadlines for the elimination of revealed shortcomings shall be specified.

4.5. In case of early fulfillment of the work the Customer shall have the right to accept the work before the intended date and to pay for it at a contractual price with signing the Act of Work Delivery and Acceptance.

4.6. If in the course of performing the work it is found out that it is impossible to attain the results set forth in the Project Proposal or that it is inexpedient to continue the work set forth in the Contract due to some circumstances that are beyond the Contractor's control, the latter shall be obliged within 10 (ten) calendar days from the moment when he became aware of such circumstances to inform the Customer about the impossibility to attain the anticipated results or the inexpediency to continue the work. The Contractor shall inform the Customer by sending the Customer a written notice with a mandatory specification of reasons for the impossibility of attaining the results or for the inexpediency of continuing the work.

4.7. The Contractor shall bear responsibility for proving the existence of objective impossibility to attain the results. The decision about cessation of work shall be taken by the Customer.

4.8. In case any circumstances stipulated for in clause 4.6. to present Contract arise, the Customer shall pay to the Contractor the cost of the work that has been done until the moment where the Contractor found out or should have found out, whichever event occurs first, that it is impossible to attain the result but not exceeding the corresponding part of the work price stipulated in the Protocol to the present Contract.

4.9. If the achieved result set forth in the Contract is not obtained completely, the payment will be done for the conducted previous work that was done by the Contractor and accepted by the Customer in accordance to the steps given in the Time plan.

4.10. The Customer shall have the right to refuse wholly or partially to pay for such work results that do not comply with the Project Proposal to present Contract.

5. THE RIGHTS TO THE RESULTS OF THE WORK

5.1. All rights and any other claims to the objects of intellectual property and similar objects, including those amenable to legal protection, and to any other creative activity results, obtained by the Contractor when fulfilling the obligations under the Contract shall be transferred to the Customer in full, and the Contractor shall take all actions of whatever nature required to execute such transfer.

5.2. In case of obtaining a result amenable to legal protection the Contractor shall notify the Customer about it within 30 (thirty) working days from the date of work execution. The date of work execution shall be deemed the date when the Contractor got grounds to believe that this executed work can be delivered to the Customer.

5.3. In each particular case the Parties are entitled to negotiate any other conditions of mutual relations in the matters of intellectual property. In such cases the above matters have to be defined in relevant Protocols or supplementary agreements hereto.

5.4. The Contractor must not use the results of the work performed under this Contract in his own activities unless upon Customer's consent and in accordance with Customer's instructions.

5.5. The Contractor shall resolve all matters with original authors at his own discretion as well as bear the responsibility towards the authors for any breach of obligations.

5.6. The Contractor shall guarantee to the Customer that the results of the work hereunder, which the former delivers to the latter, do not infringe any exclusive rights of any third parties within the territory of the intended use of such results.

5.7. The Contractor shall agree with the Customer the necessity of using the protected results of intellectual activity, owned by third parties, as well as the acquisition of rights to use them.

5.8. Without the Customer's prior written consent the Contractor shall have no right to sell, use, and transfer or publish any information received by him as a result of the work carried out for the Customer.

5.9. The Contractor shall have the right to publish the results observed in the project with the prior exclusive written consent of the Customer only. In case of Contractor's interest on publishing of the results the Customer will receive the full text of the publication for his approval. The Customer shall notify the Contractor about his decision within 30 (thirty) working days from the date of receiving the full text. In case it is the Customer's interest to present the work at a conference or in a scientific journal, the Customer should cover related expenses. In any case of publishing the results obtained in this project, the Customer shall be listed between co-authors and the company name should be acknowledged.

6. PRICE OF THE WORK AND SETTLEMENT PROCEDURE

6.1. The cost of the work and procedure of settlements under this Contract is defined by Protocols hereof.

6.2. Any payment under this Contract shall be effected by the Customer in accordance with the Cost Plan indicated in the Protocols. The payment for all stages of the Protocol shall be effected after having signed a Delivery-Acceptance Act of the previous stage with respect to time plane. The costs of individual work stages are defined by the Cost Plan being an integral part of each Protocol (Appendix 3 to the Contract). The work should be invoiced in accordance to the Cost Plan given at Appendix 3.

6.3. The date of payment according to the Cost Plan and the date of the final settlement for the work performed hereunder shall be the date of debiting the funds from the settlement account of the Customer. All payments between the Parties shall be in Euro.

6.4. All the costs in accordance with the Cost Plan indicated in the Protocols to present Contract are given exclusive VAT.

6.6. Banking details of the Contractor:

Bank of the Contractor:

SWIFT KOMBCZPPXXX:

43-7565040247/0100

IBAN: CZ29 0100 0000 4375 6504 0247

Correspondent-bank:

Komerční banka, a.s. Zlín

Tr. T. Bati 152, 761 20 Zlín

7. CONFIDENTIALITY

7.1. The Parties shall assume responsibility to ensure confidentiality of any data relating to the subject of the Contract, the progress of its execution and the results obtained. All materials and information received by the Parties in the progress of executing this Contract shall be treated as confidential and shall not be disclosed to any third parties. The Contractor shall have no right to use the obtained results for the purposes of publishing them in any public media, in reports and making speeches as well as in any other activities without agreeing it with the Customer in advance.

7.2. The provisions for confidentiality shall survive premature termination of this Contract by the Parties and its expiry and shall further remain valid for 5 (five) years after termination or expiry of this Contract.

7.3. Any obligations of the Parties regarding confidentiality and non-disclosure of information, which are set forth in clause 7.1. hereof, shall not apply to any information in the public domain.

7.4. The Parties shall be held liable for ensuring that each and every person to whom any confidential information is disclosed in accordance with this Contract neither discloses it nor communicates it to any unauthorized person.

7.5. If one of the Parties discloses (communicates) any confidential information, with a breach of the requirements set forth in this section, said Party shall fully reimburse the other Party for any damage thus caused.

7.6. Any confidential information received by one of the Parties may be communicated to competent governmental authorities on the grounds and according to the procedure stipulated by the applicable mandatory legislation; with a prompt notice about it to the other Party to the extent legally permitted.

7.7. Taking into account the specific nature hereof, the Parties understand that mutual assistance and cooperation constitute a guarantee of successful and timely fulfillment of the obligations hereunder. For this purpose the Parties appoint their authorized representatives:

On behalf of the Customer

Dipl.-Ing. Reinhold Kipscholl, General manager

On behalf of the Contractor

Prof. Petr Sáha, Rector

8. LIABILITIES OF THE PARTIES

8.1. The Contractor shall be held liable for illegal use of any objects of intellectual property of third parties. Should any third parties raise any claims, bring any suits against the Customer related to any infringement of their rights, regardless of whether they can legally be protected or not, the Contractor shall at its own discretion and at its own expense settle such claims and suits and reimburse all losses incurred by the Customer.

8.2. If subsequent to remedying defects and omissions set forth in clause 4.4 hereof, the result of the work (of the work stage) does not comply with the requirements of the Contract and is not accepted by the Customer, the latter shall have the right to refuse from the execution of the Contract and to demand that the Contractor should return him the amount of the advance payment.

8.3. The Contractor undertakes to reimburse the Customer for any losses caused by violation of the obligations. To reimburse losses the Parties have determined a period of one month from the date of the Customer's written notice to the Contractor.

8.4. If any third parties are engaged in performing the work under this Contract, the Contractor shall be fully liable towards the Customer for the actions of such third parties.

9. APPLICABLE LAW

9.1. This contract shall be governed by and construed in accordance with the substantive laws of Czech irrespective of its laws regarding choice or conflict of laws.

9.2. The Parties shall endeavour to settle any disputes and disagreements which may arise from or in connection with this Contract by way of negotiations.

9.3. In the event that the dispute cannot be resolved through negotiation and compromise, either Party may initiate legal proceeding in accordance with the law rules of Czech. The language of the arbitration proceedings shall be English. The resolution of the arbitrators shall be binding on both Parties.

10. CONTRACT TERM OF VALIDITY

10.1. The Contract shall enter into force upon its signing by both Parties and shall be valid to 31. December 2021. Expiry of this Contract shall not exempt the Parties to fulfill their obligations accrued until then.

10.2. The Contract may be amended or terminated by the agreement of the Parties. Any amendment to or termination of the Contract shall be executed by a written agreement of the Parties.

10.3. The Contractor shall have the right to unilaterally repudiate this Contract at any time on the condition of full compensation for losses to the Customer and repayment of any fees already paid by the Customer. (In these point "Losses" means the expenses that the Customer whose right was violated made or must make to reinstate the right that was violated, the loss of or injury to his property (actual damage), and also income not received that the Customer would have received under the usual conditions of civil commerce if his right had not been violated (forgone benefit)).

10.4. In the case of termination of the Contract the Customer shall have the right to the results of the work.

11. MISCELLANEOUS

11.1. Subsequent to signing this Contract all previous negotiations and communications related to it shall be deemed void and ineffective.

11.2. This Contract is made in the English language.

11.3. All alterations, appendixes and amendments hereto shall only be deemed valid if they are made in writing and are signed by the authorized representatives of both Parties.

11.4. Facsimile copies of any additional agreements, appendixes and alterations hereto, any Acts of works delivery and acceptance shall have the effect of the original until each Party receives its set of the original signed by both Parties. In so doing the Party which was the last to sign any of the aforesaid documents shall forward to the other Party its original counterpart no later than 3 (three) business days from the date of signing this document.

11.5. This Contract is made in 2 (two) originals of equal legal force, one original for each Party.

11.6. Neither Party shall be considered in default of performance of their obligations when such default is caused Force Majeure circumstances, provided such Party has taken efforts to avoid such Force Majeure circumstances. The following shall be considered as Force Majeure circumstances including but not limited to: fire, flood, storm, earthquake, nuclear holocaust/war, riots, civil commotion, and acts of governments.

11.7. The Party, for which it became impossible to fulfil obligations under the Contract caused by circumstances of Force Majeure, shall notify in written form the other Party of the beginning and cessation of the above circumstances within 3 (three) working days.

11.8. In all other respects, that are not provided in the Contract, the Parties shall be guided by the current Czech legislation.

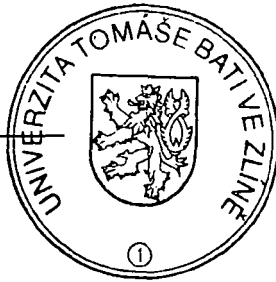
12. ADDRESSES AND BANKING DETAILS OF THE PARTIES

THE CONTRACTOR

*Tomas Bata University in Zlín,
Nám. T. G. Masaryka 5555
76001 Zlín
The Czech Republic*

*Registration number: 70883521,
Taxpayer number: CZ70883521
Bank of the Contractor:
SWIFT KOMBCZPPXXX: 43-7565040247/0100
IBAN: CZ29 0100 0000 4375 6504 0247
Correspondent-bank:
Komerční banka, a.s. Zlín
Tr. T. Bati 152, 761 20 Zlín*

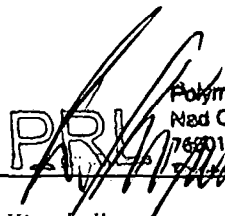

4. 8. 2017



*prof. Petr Sába
Rector*

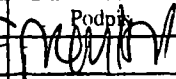

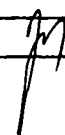
THE CUSTOMER

*PRL Polymer Research Lab, s.r.o.
Nad Ovčírnou 3685
76001, Zlín
Czech Republic*

26.06.2017  

*Polymer Research Lab., s.r.o.
Nad Ovčírnou 3685
76001 Zlín
747 2057 003 6010*

*Dipl.-Ing. Reinhold Kipscholl
General Manager*

Odpovídá	Datum	Podpis
PO/OO	30.7.2017	
EO		26. 7. 2017
Věcně		
Správce rozpočtu		

APPENDIX 1
PROJECT PROPOSAL

May 25th 2017

Project Proposal

Complex analyses and development of testing methodologies for description of mechanical behavior of rubber materials under quasi-static as well as dynamic and fatigue loading conditions.

Dipl.-Ing. Reinhold Kipscholl
mail@prl-z.com

Project Title	Complex analyses and development of testing methodologies for description of mechanical and thermomechanical behavior of rubber materials under dynamic and fatigue loading conditions.
Project aims	<p>The key goals of the project are:</p> <ul style="list-style-type: none"> - Manufacturing of various rubber compounds. - Basic rheological characterisation of various rubber compounds. - Basic investigations of cured rubber behaviour under quasi-static loading conditions in accordance to common standards. - Advanced investigations of cured rubber behaviour under dynamic, fatigue loading, complex fracture behaviour, dynamic wear process. <p>The specific goals of the project are:</p> <ul style="list-style-type: none"> - Investigation of the relation between filler type, filler dispersion, filler loading, polymer dispersion and fatigue behaviour of rubber compounds. - Investigations of temperature development of dynamically loaded rubber matrix - Investigations of curing kinetic of multi-layer rubber components
Resourcing	The project will be resourced from PRL from financial point of view and material, personal- and machinery-wise from CPS.
Supervisor from CPS	doc. Ing. Vladimír Sedlařík Ph.D.
Supervisor from DSS	Dipl.-Ing. Reinhold Kipscholl
Project Timing	<p>Start planned for June 2017</p> <p>Deadline December 2021</p> <p>(milestone meetings every 3 months and/or when necessary)</p>

Within the framework of this project, PRL Polymer Research Lab., s.r.o. (PRL) would like to co-operates with Tomas Bata University in Zlín (TBU), Centre of Polymer Systems (CPS) in complex rubber material research based on material development as well as characterisation.

Detailed description of the project aims:

- 1) Manufacturing of various rubber compounds
 - a) From the customer it will be provided varied recipes of rubber compounds or directly still manufactured rubber compound in the amount up to 20 recipes/compounds/year.
 - b) The contractor will produce the first set of each rubber compound by using of the internal mixture at simultaneous observation of all processing parameters inclusive temperature envelopment in a small amount about 50cm³.
All equipment necessary for the production of the rubber compound in the lower amount will be to disposal from CPS.

- 2) These produced batches of compounds will be rheologically characterised and the rubber specimens will be produced by using of curing process in hydraulic curing press.
All equipment necessary for the rheological characterisation of the rubber compound will be to disposal from CPS.

- 3) After the production of rubber specimens or from the rubber specimens which the customer will directly provide to the contractor, the selected fundamental test characterised the basic as well as advanced mechanical behaviour will be analysed. The used analyses will be defined by the request of the customer for each compound separately. Here below is the list of the possible used analyses
 - a) Basic analyses:
 - Tensile test
 - DIN Abrasion
 - Hardness
 - Rebound resilience
 - b) Advanced analyses:
 - Dynamic mechanical Analyses
 - Thermogravimetric Analyses
 - Spectroscopy
 - Crack initiation
 - Crack growth under dynamic loading conditions
 - Fatigue investigation
 - Tribologic properties

- Wear at dynamic loading condition
 - Electric conductivity
- 4) Based on the observed data the selected rubber compound of larger amount up to 1,5l of rubber compound will be produced and the procedure of measurement of rheological as well as mechanical behaviour will be repeated.
- All equipment necessary for the production of larger amount of rubber compound as well as material be to disposal from CPS.
- 5) Investigation of the relation between filler type, filler dispersion, filler loading, polymer dispersion:
- The various content of each of components will be provided and defined by PRL and will be given CPS to disposal before the step 1 will start.
- 6) Investigations of temperature development of cyclically dynamically loaded rubber matrix and development of the methodology used:
- a) Providing of advanced thermomechanical analyses by advanced commercial methods
 - b) Definition of the measuring methodology inclusive detailed description of the complex process leading to performance of the analyses by on line observation of the heat build-up and change of mechanical behaviour in the rubber specimen
 - c) Complex design of the testing equipment inclusive all technical drawings and functionality schemes
 - d) Determination of test specimen production
- 7) Investigations of curing kinetic of multi-layer rubber components
- a) Providing of standard and advanced analyses of curing kinetic of multi-layers component
 - b) Definition of the measuring methodology based on cyclic dynamic loading conditions and measurement of adhesion forces
 - c) Complex design of the testing equipment inclusive all technical drawings and functionality schemes
 - d) Determination of test specimen production

APPENDIX 2
TIME PLAN

Year	Quarter	Step														
		1		2	3		4	5	6				7			
		a	b	-	a	b	-	-	a	b	c	d	a	b	c	d
2017	3															
	4															
2018	1															
	2															
	3															
	4															
2019	1															
	2															
	3															
	4															
2020	1															
	2															
	3															
	4															
2021	1															
	2															
	3															
	4															

APPENDIX 3
COST PLAN

Year	Quarter	Step														
		1		2	3		4	5	6				7			
		a	b	-	a	b	-	-	a	b	c	d	a	b	c	d
2017	3	Deu date 30.11. 2017, the amount 375.000,00 CZK														
	4															
2018	1	Deu date 30.11. 2018, the amount 500.000,00 CZK														
	2															
	3															
	4															
2019	1	Deu date 30.11. 2019, the amount 250.000,00 CZK														
	2															
	3															
	4															
2020	1	Deu date 30.11. 2020, the amount 250.000,00 CZK														
	2															
	3															
	4															
2021	1	Deu date 30.11. 2021, the amount 250.000,00 CZK														
	2															
	3															
	4															

TOTAL: the amount under contract is 1.625.000,00 CZK (one million six hundred twenty five thousand, Czech crown, excluding VAT (21%))