



RAUFUSION PP-R PLUMBING SYSTEM

SAFER. SMARTER. MORE CONVENIENT.

UNLIMITED POLYMER SOLUTIONS

LIVE BETTER WITH REHAU QUALITY AND INNOVATION

REHAU was founded in Germany in 1948. Today, our proficiency in developing innovative solutions has made us a global leader in polymer processing technologies, providing a wide range of products and services to the Construction, Automotive and Industrial sectors. Through continuing research and development, REHAU consistently delivers cost-effective products designed with the environment in mind.

Stringent quality control and safety guidelines ensure that our products comply with the highest international standards. We take pride in our expertise and versatility to remain at the forefront of technology.

As an independent and privately owned company, REHAU focuses on building long-lasting partnerships and alliances with our customers.



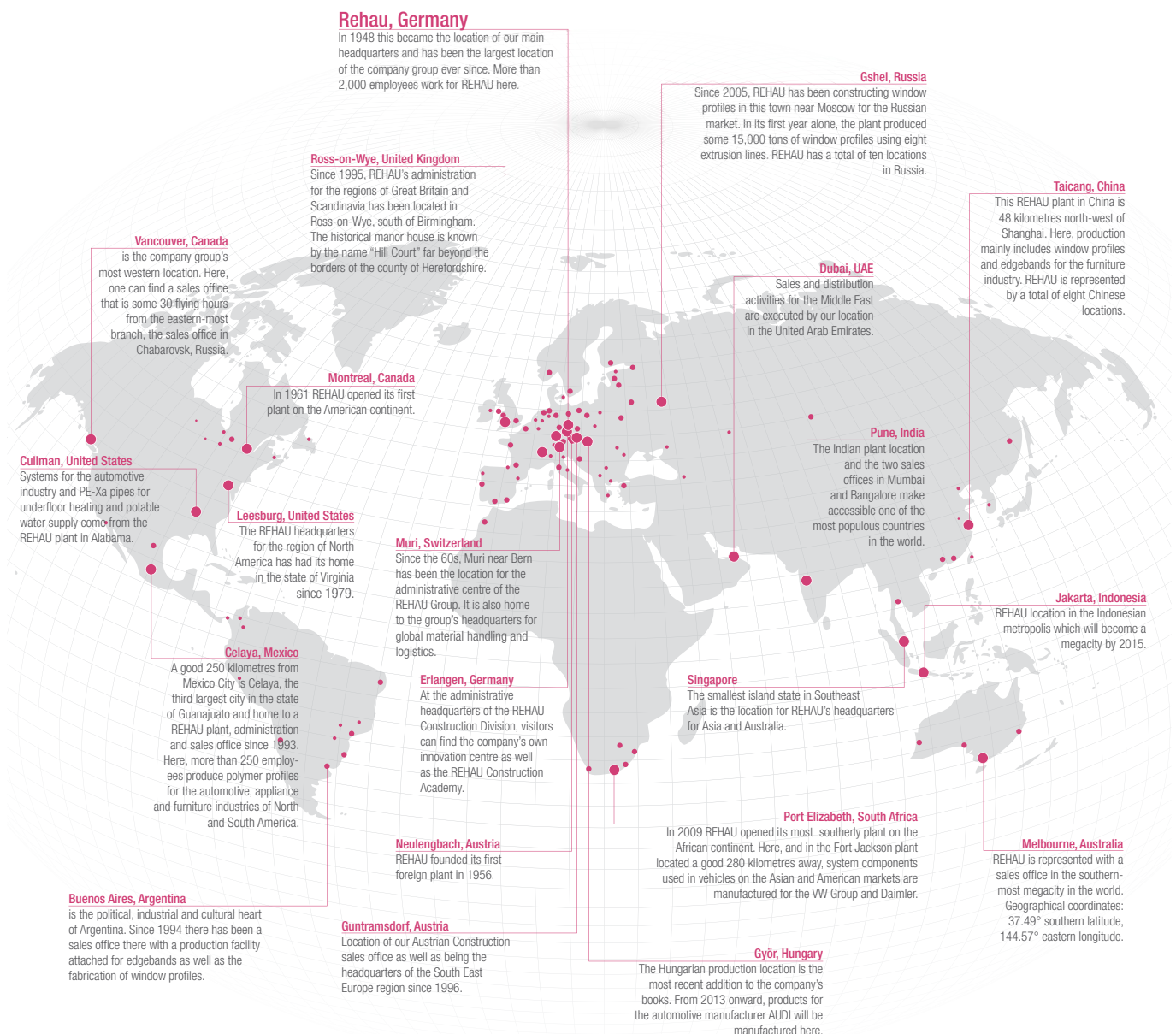
From top, left to right: intelligent heating and cooling systems • contemporary roller shutter storage solutions • energy-efficient window solutions • quality edgeband for the furniture industry • gasket seals and profiles for domestic appliances • robust hot and cold water plumbing systems • sophisticated automobile bumpers • the latest trends in synthetic weaving materials • high-pressure hoses for various industrial applications • acoustic domestic drainage systems • advanced pipe aerator solutions • central vacuum cleaning system • heating systems for turf conditioning • third rail solutions • fibre composites for aerospace industry



CLOSE TO CUSTOMER

EFFECTIVE NETWORKING

REHAU has offices at more than 170 locations all around the world. At the beginning of this success story, in the early 50s, there were a grand total of just three locations in Germany and Austria.



RAUFUSION

THE PERFECT FUSION OF QUALITY AND FUNCTIONALITY

Pressure Rating: **PN 20 / SDR 6 / S 2,5**
Working Pressure: 20 bar
Working Temperature: 3 - 95°C
Lifespan: 50 years
Appearance: Light Grey with 4 Magenta stripes

Magenta, Grey and Green are the primary colours of REHAU. A symbol of quality, innovation and service recognisable throughout the world.

The distinct REHAU colours are represented in the **RAUFUSION 3 pipes series**. Representing our distinct design, engineering and commitment to the products reliability and innovation.

Pressure Rating: **PN16 / SDR 7,4 / S 3,2**
Working Pressure: 16 bar
Working Temperature: 3 - 60°C
Lifespan: 50 years
Appearance: Light Grey with 4 Grey stripes

Pressure Rating: **PN10 / SDR 11 / S 5**
Working Pressure: 10 bar
Working Temperature: 3 - 60°C
Lifespan: 50 years
Appearance: Light Grey with 4 Green stripes

REHAU EXTRUDING PP FOR MORE THAN 50 YEARS



REHAU being a global supplier of materials for the Automotive, Industry and Construction sectors understands what is required to get the job done today and for the future.

The RAUFUSION system has been engineered and manufactured according to the REHAU prestige quality standard guaranteeing the performance of the RAUFUSION system during installation, commissioning and long-term operation.

RAUFUSION has been rigorously tested according to all short and long-term requirements specified in the ISO 15874 and DIN 8077/78 international standards and of course REHAU's own stringent quality requirements.

APPLICATIONS:

The system can be used for various applications:

- Potable hot and cold water piping system
- Industrial piping system
- Radiant heating and cooling system
- Compressed air piping system
- Chilled water piping system

COMPLIANCE STANDARDS:

- ISO 15874
- DIN 8077 / 78
- AS/NZS 4020
- BS EN 545
- SS 375
- BS EN 1982
- BS EN 12163/65/BS EN 12420

GERMAN
TECHNOLOGY 

RAUFUSION

DESIGNED TO MEET YOUR REQUIREMENTS

Polypropylene Random-Copolymer (PP-R) System
with Homogeneous Jointing Technology for Plumbing
Applications to DIN 8077/78 and ISO 15874.



SAFER

ENGINEERED FOR YOUR SAFETY AND WELL BEING

Safety is extremely crucial when choosing the right plumbing system. The RAUFUSION plumbing system is engineered for your well being. Packed with a wide array of safety features such as threaded fittings that ensure absolute security at the joints, the best compounded polypropylene (PP-R) material chosen so that there is no material degradation and also not forgetting that the RAUFUSION system has gone through rigorous quality standards testing to meet international standards.



SUPERIOR RAW MATERIAL

Only compounded polypropylene (PP-R) material is used for pipe and fitting production. Compounded material includes highly effective stabilizers which prevent the material from degrading during production and operations.

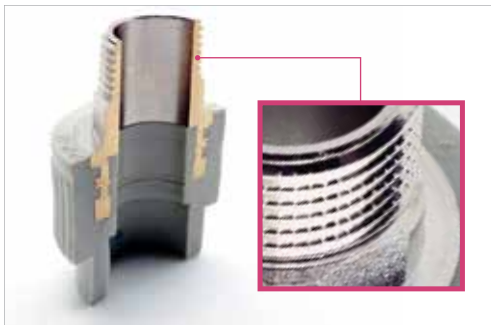
No material degradation



HOMOGENEOUS JOINT - SOCKET FUSION

The result of the socket fusion process is a permanent homogeneous joint that requires no O-ring or solvent to seal and gives great pressure resistance. This is unique safety feature through engineered design.

100% Homogeneous joints



RAUFUSION THREADED FITTINGS

The bond between PP-R material and metal threaded insert is critical for the system security, significant forces can be applied during the tightening of foreign counterparts. REHAU's RAUFUSION deep multi-point rib design is tested to resist the extreme torque during installation. In addition, the serrated thread ensures Teflon tapes are tightly bonded around the thread for maximum security.

Complete system security



PRESTIGIOUS QUALITY STANDARDS

Rigorously tested according to all short and long term requirements specified by ISO15874 and DIN 8077178. Also fulfilled REHAU's stringent lab tests and quality requirements.

Tested & proven quality

SMARTER

BECAUSE WE'RE THINKING OF YOU

Smarter and more intuitive. RAUFUSION is designed with you in mind. We've thought about how difficult it can be when it comes to plumbing, we've designed our plumbing system with smarter and more intelligent features that will make your plumbing experience a breeze.

Easy Identification

COLOURED MARKINGS FOR IDENTIFICATION

The RAUFUSION piping system is clearly marked out in various colours. Magenta, Grey and Green are the primary colours of REHAU. A symbol of quality, innovation and service; recognisable throughout the world.

The distinct REHAU colours are represented in the RAUFUSION 3 pipes series. Representing our distinct design, engineering and commitment to the products reliability and innovation.



Reduce >10% chasing depth

ALLOW SHALLOWER INSTALLATION

Often a water outlet is required in a location that does not allow for standard concealment depth. RAUFUSION shallow female elbow can solve your problem. It is designed with a shortened transaction elbow to connect to the conceal pipe.

It is the small things that can make a big difference.



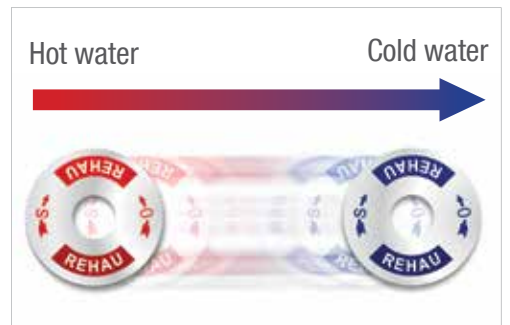
Turning with ease

STOP VALVES WITH SMART LABEL PLATES

The distinct stop valve is designed with a large hand wheel shaped like the REHAU logo. The valve can easily be closed or opened at will, for preventing or regulating the flow of liquid.

Label plate on the stop valve has clearly indicated red and blue prints on each side. Label plate has another function to use to indicate the type of water application as the label plate has blue and red indicator on each side.

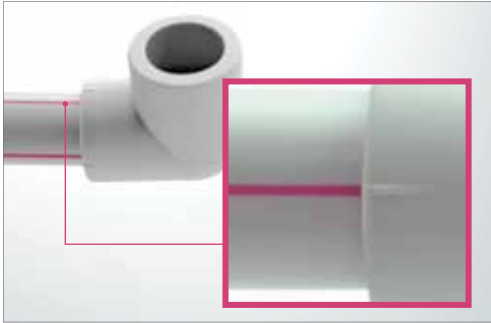
Flip to the red side for hot water and blue side for cold water. This can be done easily in just a few seconds.



CONVENIENT

EASIER JUST FOR YOU

Convenience is at the heart of the RAUFUSION system. Aside from the unique features such as embossed joint and time markings. RAUFUSION is a complete PP-R system that comes equipped with a specially designed fusion tools system that makes plumbing and fixing effortless.



EMBOSSED JOINT MARKINGS

Four (4) stripes located at 90° apart are designed not simply for easy product identification, but also for convenient installation.

The pipe's stripes and fitting's embossed marking lines allow easy and quick alignment during the installation to achieve the desired angle of the branched pipe or fitting.

Easier
alignment



FUSION TOOLS

Durable tools with factory fixed welding temperature. Inclusive of vice clamp.

- Special heat-resistant canvass bag for immediate convenient storage
- Special coated welding bushes
- Durable for daily use

Fixing it
easy



TIMING MARKS

We know that correct fusion time guarantees the quality of the joint.

With REHAU RAUFUSION, our installers are not required to bring along the fusion parameters with them to carry out the fusion process. It is simply because the Fusion (Heating) Times are printed in small intervals on the RAUFUSION pipes accordingly to the heating requirements respectively on each pipe's size.

The welding time table can also be found in the each REHAU welding tool bag.

Accurate
timing

REF
Unlimited Polym

QUALITY AND SERVICE
YOU CAN ALWAYS TRUST



REHAU SERVICE AND SUPPORT

TRUSTWORTHY SERVICE EXCELLENCE THAT'S ALWAYS THERE FOR YOU

To ensure the long-term performance of our products and the satisfaction of our customers, **REHAU is committed to providing world-class services with our innovative and high quality products.** More than just a global polymer manufacturer, **REHAU is a total solutions provider** and offers the most comprehensive polymer construction products.



LOCAL CUSTOMER SERVICE

Our local sales offices provide local customer service in local languages.

We are, where you are.

Excellent
service & support



TECHNICAL SUPPORT

REHAU provides technical application engineering support for all our systems.

Project planning, system design, application problem solving, training and new product development are available when you choose REHAU.

Technical
expertise & support



YOUR PERFECT LONG-TERM PARTNER

We offer you the strength of a world-leading brand of polymer-based solutions. One that is backed by **outstanding innovations, the most modern manufacturing technologies and flexible logistics.**

You'll find in REHAU a future-oriented, reliable partner with a depth of expertise second to none.

Reliable
partner

EASY INSTALLATION

3 STEPS FOR SOCKET FUSION



1 Fusioning



2 Aligning



3 Jointing

Socket fusion is an easy way to making RAUFUSION joints. Both pipe and fitting are heated for a set length of time after which the heated socket/spigot tooling is removed and the pipe is pushed into the fitting. Pipe and fitting are left for a predetermined time to cool and form a secured weld. Depending on the size of pipe, socket fusion welding can either be done by our handy RAUTOOL RF63, R125 tool kits or RAUTOOL RF125 station kit.

For more technical detail, please refer to REHAU RAUFUSION Technical Information, which can be viewed/downloaded on www.rehau.com.sg.

Welding Parameters

Pipe Diameter (mm)	Insertion depth (mm)	Heating time (sec)	Jointing time (sec)	Cooling time (min)
20	14	6	4	2
25	16	7	4	3
32	18	8	6	4
40	20	12	6	4
50	23	18	6	5
63	26	25	8	6
75	28	30	8	8
90	31	40	10	8
110	33	50	10	8

TECHNICAL SPECIFICATION

Pipes Dimension Table

	PN 10 / SDR 11 / S 5		PN 16 / SDR 7,4 / S 3,2		PN 20 / SDR 6 / S 2,5	
Outer pipe dimensions	e	ID	e	ID	e	ID
mm	mm	mm	mm	mm	mm	mm
20	1,9	16,2	2,8	14,4	3,4	13,2
25	2,3	20,4	3,5	18	4,2	16,6
32	2,9	26,2	4,4	23,2	5,4	21,2
40	3,7	32,6	5,5	29	6,7	26,6
50	4,6	40,8	6,9	36,2	8,4	33,2
63	5,8	51,4	8,6	45,8	10,5	42,0
75	6,8	61,4	10,3	54,4	12,5	50,0
90	8,2	73,6	12,3	65,4	15,0	60,0
110	10	90,0	15,1	79,8	18,4	73,2


PP-R Material Characteristics


Properties	Methods	Units	Values
Specific Weight	ISO 1183	g/cm ³	0,895
Melt Flow Index at 190°C with 5kg	ISO 1133	g/10 min	0,4
Melt Flow Index at 230°C with 2,16kg	ISO 1133	g/10 min	0,3
Melt Range	Polatising Microscope	°C	140 - 150
Thermal Conductivity 20°C	DIN 52612	W/m-K	0,24
Specific Heat at 20°C	Adiabatic Calorimeter	KJ/kg-K	2
Coefficient of Linear Expansion	VDE 0304	mm/m-K	0,15
Yield Stress	ISO / R527	N/mm ²	21
Tear Strength	DIN 53455	N/mm ²	40
Elongation at Tear	DIN 53455	%	800
Modulus of Elasticity	ISO 178	N/mm ²	800
Ball Indentation Hardness	ISO 2039	N/mm ²	40
Impact Test			
at 0°C	ISO 179	KJ/m ²	No Break
at -10°C	ISO 179	KJ/m ²	No Break
Notch Impact Strength			
at 0°C	ISO 179	KJ/m ²	7
at -10°C	ISO 179	KJ/m ²	3
Impact Resistance at 0°C	EN 15874-2		No Break


RAUFUSION


PRODUCT RANGE

RAUFUSION Pipes


Description	Art. - No.	DN in mm
 Pipe PN10	312567.001	20 x 1,9
	312568.001	25 x 2,3
	312569.001	32 x 2,9
	312570.001	40 x 3,7
	312571.001	50 x 4,6
	312572.001	63 x 5,8
	312573.001	75 x 6,8
	312574.001	90 x 8,2
	312575.001	110 x 10,0


 Pipe PN16	312576.001	20 x 2,8
	312577.001	25 x 3,5
	312578.001	32 x 4,4
	312580.001	40 x 5,5
	312581.001	50 x 6,9
	312582.001	63 x 8,6
	312583.001	75 x 10,3*
	312584.001	90 x 12,3*
	312585.001	110 x 15,1*


 Pipe PN20	312586.001	20 x 3,4
	312587.001	25 x 4,2
	312588.001	32 x 5,4
	312589.001	40 x 6,7
	312591.001	50 x 8,4
	312592.001	63 x 10,5
	312593.001	75 x 12,5
	312598.001	90 x 15,0
	312602.001	110 x 18,4


 Reducing Tee	312616.001	25-20-25
	312617.001	32-20-32
	312618.001	32-25-32
	312641.001	40-20-40
	312642.001	40-25-40

RAUFUSION components

Description	Art. - No.	DN in mm
 Elbow 90°	312601.001	20
	312603.001	25
	312600.001	32
	312634.001	40
	312604.001	50
	312605.001	63
	312606.001	75
	312607.001	90
	312608.001	110


 Elbow 45°	312635.001	20
	312636.001	25
	312637.001	32
	312638.001	40
	312609.001	50
	312610.001	63
	312611.001	75
	312612.001	90
	312613.001	110

 Tee	312614.001	20
	312615.001	25
	312639.001	32
	312640.001	40
	312730.001	50
	312731.001	63
	312732.001	75
	312733.001	90
	312734.001	110

 Short bypass bend	314050.001	20
	314060.001	25
	314070.001	32

RAUFUSION components

Description	Art. - No.	DN in mm
	312643.001	40-32-40
	312645.001	50-20-50
	312646.001	50-25-50
	312735.001	50-32-50
	312736.001	50-40-50
	312647.001	63-20-63
	312737.001	63-25-63
	312738.001	63-32-63
	312739.001	63-40-63
	312740.001	63-50-63
	312741.001	75-32-75
	312742.001	75-63-75
	312743.001	90-32-90
	312745.001	90-63-90
	312746.001	110-63-110


 Reducing Bush	312619.001	25-20
	312648.001	32-20
	312620.001	32-25
	312649.001	40-20
	312650.001	40-25
	312747.001	40-32
	312748.001	50-20
	312749.001	50-25
	312750.001	50-32
	312751.001	50-40
	312752.001	63-20
	312753.001	63-25
	312754.001	63-32
	312755.001	63-40
	312756.001	63-50
	312757.001	75-63
	312758.001	90-63
	312759.001	90-75
	312760.001	110-63
	312761.001	110-75
	312762.001	110-90


RAUFUSION


PRODUCT RANGE


RAUFUSION components


Description Art. - No. DN in mm

	312621.001	20
	312622.001	25
	312651.001	32
	312652.001	40
	312623.001	50
	312624.001	63
	312625.001	75
	312626.001	90
	312627.001	110

	312653.001	20
	312654.001	25
	312655.001	32
	312656.001	40
	312657.001	50
	312658.001	63


	312659.001	20-1/2"
	312660.001	20-3/4"
	312661.001	25-1/2"
	312662.001	25-3/4"
	312663.001	32-3/4"
	312664.001	32-1"
	312666.001	40-1 1/4"
	312667.001	50-1 1/2"
	312668.001	63-2"


	312669.001	20-1/2"
	312670.001	20-3/4"
	312671.001	25-1/2"
	312672.001	25-3/4"
	312673.001	32-3/4"
	312674.001	32-1"
	312675.001	40-1 1/4"
	312676.001	50-1 1/2"
	312677.001	63-2"

	312678.001	20-1/2"
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RAUFUSION components

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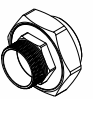
	312679.001	20-1/2"
		(Shallow)
	312681.001	20-1/2"
	312682.001	25-1/2"
	312683.001	25-3/4"
	312684.001	32-3/4"
	312685.001	32-1"

	312686.001	20-1/2"
	312688.001	25-1/2"
	312689.001	25-3/4"
	312690.001	32-3/4"
	312691.001	32-1"

	312692.001	20-1/2"-20
	312693.001	25-1/2"-25
	312694.001	25-3/4"-25
	312695.001	32-3/4"-32
	312696.001	32-1"-32


	312697.001	20-1/2"-20
	312698.001	25-1/2"-25


	312699.001	20
	312700.001	25
	312701.001	32


	312703.001	20-1/2"
	312704.001	25-3/4"
	312705.001	32-1"
	312706.001	40-1 1/4"
	312707.001	50-1 1/2"
	312708.001	63-2"

RAUFUSION components

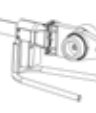
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
	312709.001	63
	312710.001	75
	312711.001	90
	312724.001	110


	312725.001	20-16
	312726.001	20-20
	312727.001	25-25
	312728.001	32-32
	312729.001	40-40

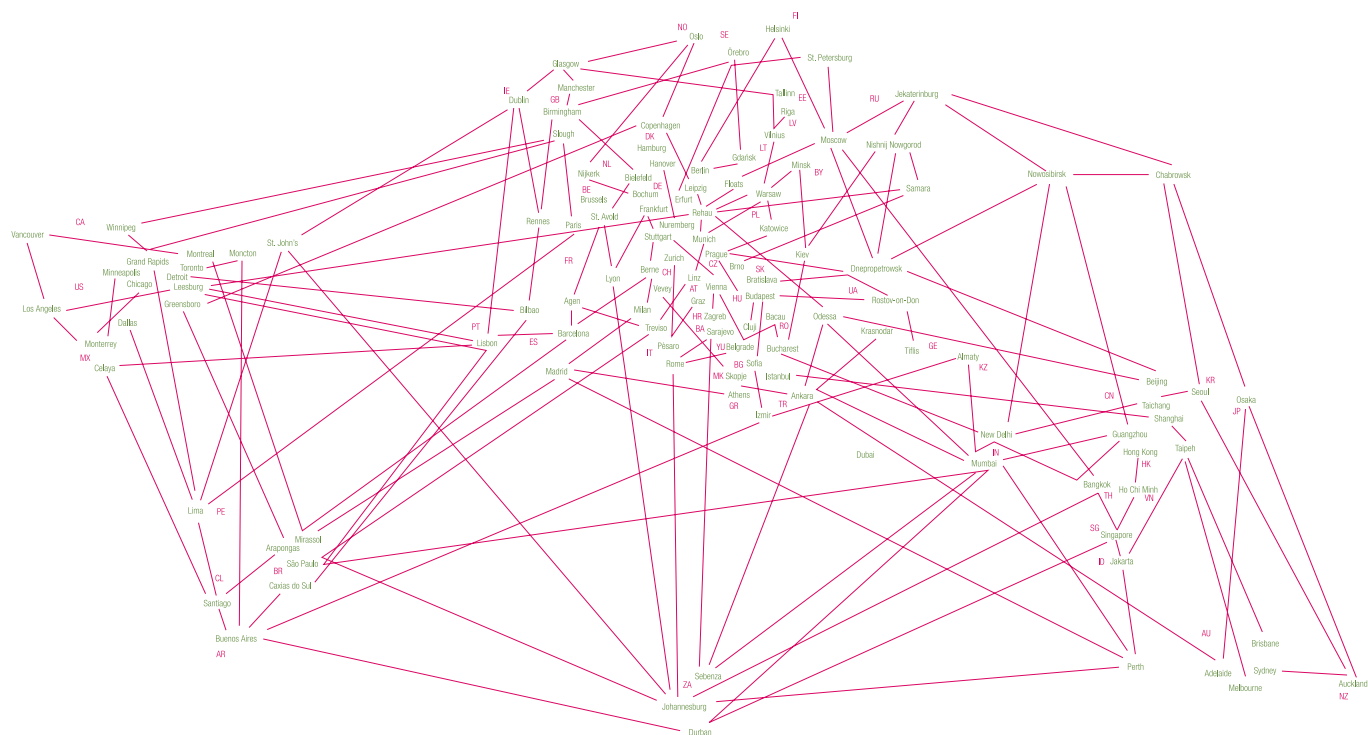
	314347.001	20-16
	314349.001	20-20
	314350.001	25-25

RAUFUSION tools

	217913.001	20-32
	217914.001	20-63

	217919.001	75-110
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	217929.001	20-110
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REHAU Branches MIDDLE EAST

QATAR - Representative Office

REHAU AUTHORISED DISTRIBUTOR: